

PUBLIC HEALTH REPORTS

VOL. 37

MAY 12, 1922

No. 19

CARBON TETRACHLORIDE.

A Drug Proposed for the Removal of Hookworms, with Special Reference to its Toxicity for Monkeys when Given by Stomach Tube in Repeated Doses.

By G. C. LAKE, Passed Assistant Surgeon, United States Public Health Service.

Hall¹ recently published in the Journal of the American Medical Association an account of experimental work in which he used carbon tetrachloride as an anthelmintic for dogs, and found it highly effective against hookworms. With a large series of dogs he was able to secure expulsion of all the hookworms following a dose by stomach of about 0.3 gm. of the drug per kilogram of the dog's weight. This is the most favorable result Hall has been able to obtain after treating hundreds of dogs with many different anthelmintics, including those in best repute.

Hall found that carbon tetrachloride was not only the most effective drug therapeutically that he had tried as an anthelmintic for hookworms but was also the least toxic of any of the active vermifuges tried. Without any evidence of discomfort, dogs withstood 1.5 c. c. per kg., or five times the effective dose of 0.3 c. c. per kg. -

As a further proof of his belief in the low toxicity of carbon tetrachloride, Hall tried the drug on himself, taking the dose of 3 c. c. This is the average dose given a dog, and Hall regards the doses required for dog and man as being about the same. He experienced no unpleasant symptoms. Hall also gave the results of some experiments on monkeys carried out jointly with Shillinger and Lake, in which doses two to five times the dose indicated for man, or 6 to 15 c. c., were given to animals weighing 2.5 to 3.5 kg. The largest dose was 6 c. c. per kg., or, on the basis of cubic centimeters of drug per kilogram of animal's weight, over one hundred times the dose indicated for man. These monkeys showed no definite symptoms of intoxication and, after being held under observation for a month or longer, were used in experiments in poliomyelitis, which usually causes marked changes only in the central nervous system. Post-mortem examination after their death from the poliomyelitis virus

¹ Hall, M. C.: The use of carbon tetrachloride for the removal of hookworms. Jour. Am. Med. Assn. vol. 77, No. 21, Nov. 19, 1921, pp. 1641-1643.

showed no gross changes in the liver or other viscera. Microscopic examinations were not made.

More recently Allen² reports the treatment of about 400 fur foxes, for removal of hookworms, with carbon tetrachloride with very satisfactory results.

The experiments here recorded were carried out at the suggestion of Dr. G. W. McCoy, who believed it might be essential to use repeated doses of carbon tetrachloride in man, and hence it would be important to know first the results of repeated doses in monkeys.

Four monkeys were used. The weights of the monkeys were from 2,210 to 2,630 grams. At each dosage monkey No. 1 received, by stomach tube, 1 c. c.; monkey No. 2 received 2 c. c.; monkey No. 3 received 3 c. c.; and monkey No. 4 received 5 c. c. of carbon tetrachloride. These doses were administered on January 24, 27, 30, February 2, 4, 6, 8, 11, 14, 16, 18, and 20, 1922.

On February 23, monkey No. 4, which had received a total of 60 c. c. during a period of 30 days and appeared to be in good health, was inoculated subdurally with monkey brain emulsion believed to contain poliomyelitis virus without apparent effect, and on March 6 received a second subdural inoculation of the same material, following which it died March 10. Post-mortem examination showed no gross changes except an abscess in the right cerebral hemisphere, which apparently was the cause of death. Sections from the liver, kidney, spleen, and intestine were studied carefully microscopically, but no changes which could be ascribed to carbon tetrachloride were found.

Monkey No. 3 received 3 c. c. of carbon tetrachloride on February 23, 27, March 3 and 6, in addition to the doses mentioned above, or a total of 48 c. c. during a period of about six weeks. On March 6 this monkey received some of the suspected poliomyelitis virus subdurally and died on March 17. As in the case of monkey No. 4, careful examination of the organs, both grossly and microscopically, failed to show any changes ascribable to carbon tetrachloride, the cause of death being brain abscess.

Monkeys No. 1 and No. 2 received, in addition to the doses mentioned previously, 1 and 2 c. c., respectively, on February 23, 27, March 3 and 6, after which the treatment was discontinued.

Throughout the treatment with the carbon tetrachloride none of the monkeys showed any symptoms of intoxication. They ate well and appeared to be in good health. We endeavored to give the drug on an empty stomach. They were kept under observation until April 11, when they were released for other experiments, being apparently in good condition.

² Allen, J. A.: The efficiency of carbon tetrachloride against hookworms in the silver black fox. *Jour. Am. Vet. Med. Assn.*, N. S. vol. 14, No. 1, pp. 31-37.

The only points worth mentioning are that monkey No. 3 occasionally gagged on the passage of the stomach tube, but apparently more from the tube itself than from the drug. He was observed to vomit a small amount of material on two occasions, when he had accidentally been fed a few hours before the treatment. No difficulty whatever was experienced in dosing the other three monkeys, and none of them was ever observed to vomit. Monkey No. 4, during the second and third week of the experiment, passed a much larger quantity of feces than was normal, probably two to three times as much as the other monkeys; they contained a great deal of undigested food and were somewhat frothy at times. During the remainder of the experiment the feces of this animal were again practically normal.

Referring again to Hall's article, the indicated dose of the drug for man is the same as for the average-sized dog (10 kilos), viz, 3 c. c.; this is equivalent to 0.05 c. c. per kilogram for man. On this basis monkey No. 1, receiving the smallest dose given at each treatment, received more than ten times the amount per kilogram indicated for man, and this dose was repeated sixteen times within a period of 6 weeks. Monkey No. 4, receiving the highest dosage given in each treatment, received forty times the indicated dose per kilogram as compared with man, and this dose was repeated twelve times within a period of 30 days. The other two monkeys received doses between these extremes.

In view of the unusually promising results of carbon tetrachloride as an anthelmintic for hookworms in dogs, and dogs have always served as the experimental animal in studying the effects of other anthelmintics, especially thymol and chenopodium, and in view of the *unusually* low toxicity of the drug for monkeys, both when given in single and in repeated doses, the use of carbon tetrachloride in the treatment of hookworm in man is worthy of an extensive trial.

This opinion seems to be further warranted, in view of the fact that it is now conceded by all authorities on the subject that the use of thymol and chenopodium has not been without accidents, a number of fatalities being charged to each.

In man the drug should be given in hard gelatin capsules, the patient having fasted overnight, and should not be accompanied with castor oil. In fact no purgative, either at the time of administration or later, seems to be necessary, as the drug itself tends to increase peristalsis. The logical procedure would be to begin with the dose of 3 c. c. for the average patient, and, if the dosage seems too small, to increase it. It would appear safe to give as much as 10 c. c.

Caution.—Care must be taken to see that the capsules are swallowed promptly. Should one open in the mouth or throat and some of the drug enter the trachea, serious results might follow.

The only reference to the use of carbon tetrachloride for the treatment of hookworm disease in man that the writer can cite is in a

report in the *Lancet*³ to the effect that in Suva, Fiji, coolies suffering from ankylostomiasis have been treated with carbon tetrachloride, and that 98 per cent of the worms were removed by a single dose, almost without symptoms.

SUMMARY AND CONCLUSION.

1. Four monkeys received carbon tetrachloride by stomach tube in amounts of 1, 2, 3, and 5 c. c., respectively, at intervals of 2 to 3 days, over a period of from 30 to 41 days, the total number of doses varying from 12 to 16.

2. No symptoms of importance were shown by the monkeys during this period.

3. The two monkeys receiving the larger doses were subsequently used for the testing of suspected poliomyelitis virus and died of brain abscess. In each case gross and microscopic examination of the important organs failed to show any changes indicative of an exogenous poisoning.

4. The doses received by the monkeys at each treatment were from 10 to 40 times greater in cubic centimeters per kilogram of body weight than the dose mentioned by Hall as that indicated for man, and these doses were repeated from 12 to 16 times.

From the data at hand, we must conclude that carbon tetrachloride by stomach has a very low toxicity for monkeys and that it is probable that man may safely be given considerably higher doses than the ones suggested by Hall, and that it might be safe to repeat the dosage several times at proper intervals (one week).

Finally, in view of the unusually promising results that carbon tetrachloride has given as an anthelmintic for hookworms in animals, and in view of its unusually low toxicity for animals, including monkeys, when given by stomach, both in single and in repeated doses, we believe that it deserves an extensive trial in the treatment of hookworm disease in man.

NOTE.—Hall has just informed the writer that he and Doctor Shillinger have given dogs as high as 300 c. c. as a single dose without causing evident toxic symptoms.

³ Carbon tetrachloride in ankylostomiasis. *The Lancet*, Vol. CCLII, Feb. 25, 1922, p. 391.

PHYSIOLOGICAL EFFECTS OF EXPOSURE TO LOW CONCENTRATIONS OF CARBON MONOXIDE.¹

By R. R. SAYERS, Passed Assistant Surgeon, United States Public Health Service, Chief Surgeon, United States Bureau of Mines; F. V. MERIWETHER, Acting Assistant Surgeon, United States Public Health Service, Car Surgeon, United States Bureau of Mines; and W. P. YANT, Assistant Chemist, United States Bureau of Mines.

The effect of comparatively low concentrations of carbon monoxide for short periods and under normal air conditions of temperature and humidity, with the subject at rest, was studied by Dr. Yandell Henderson and his coworkers. In making recommendations to the New York and New Jersey Tunnel Commissions,² Doctor Henderson advised that if the Hudson River vehicular tunnel be so ventilated that persons passing through the tunnel would be exposed to not more than 4 parts of carbon monoxide in 10,000 parts of air for not longer than 45 minutes, they would experience no ill effects. This advice has been confirmed in supplementary experiments,³ carried out by us in connection with studies at the Bureau of Mines Experiment Station at Pittsburgh.

In continuing our studies on low concentrations of carbon monoxide, we made a few experiments in a gas chamber where the conditions could be accurately controlled. The following factors were investigated:

1. The effect of long exposure in low concentrations of carbon monoxide.
2. The effect of strenuous exercise.
3. The effect of high temperature and humidity in low concentrations of carbon monoxide.

APPARATUS.

The work was conducted at the Pittsburgh Experiment Station, where a specially constructed gas-tight chamber (Pl. 1, A), 10 by 12½ by 8 feet, was available for such experimentation. Figure 1 shows the details of this room or gas chamber. The floor, walls, and ceiling are constructed entirely of sheet metal. The windows are of glass. The wooden doors, such as are made for large refrigerators, are lined on the inside with sheet metal, the edges are bordered with rubber, and the handles exert a clamping effect which fastens the doors tightly against their jambs. All metal joints are soldered. The glass windows are cemented in the metal sash with a putty containing

¹ Work done in cooperation with the U. S. Bureau of Mines.

² Report of Tunnel Gas Investigations (Problem 2: Physiological Effect of Automobile Exhaust Gases) made by Yandell Henderson, H. W. Haggard, M. C. Teague, A. L. Prince, and Ruth Wunderlich, published by the New York and New Jersey Tunnel Commissions, 1921.

³ Appendix H, Physiological Data, by R. R. Sayers, H. R. O'Brien, F. V. Meriwether, and W. P. Yant in Report of Tests (Problem 4) Conducted in Experimental Mine Vehicular Tunnel, published by the New York and New Jersey Tunnel Commissions, 1922.

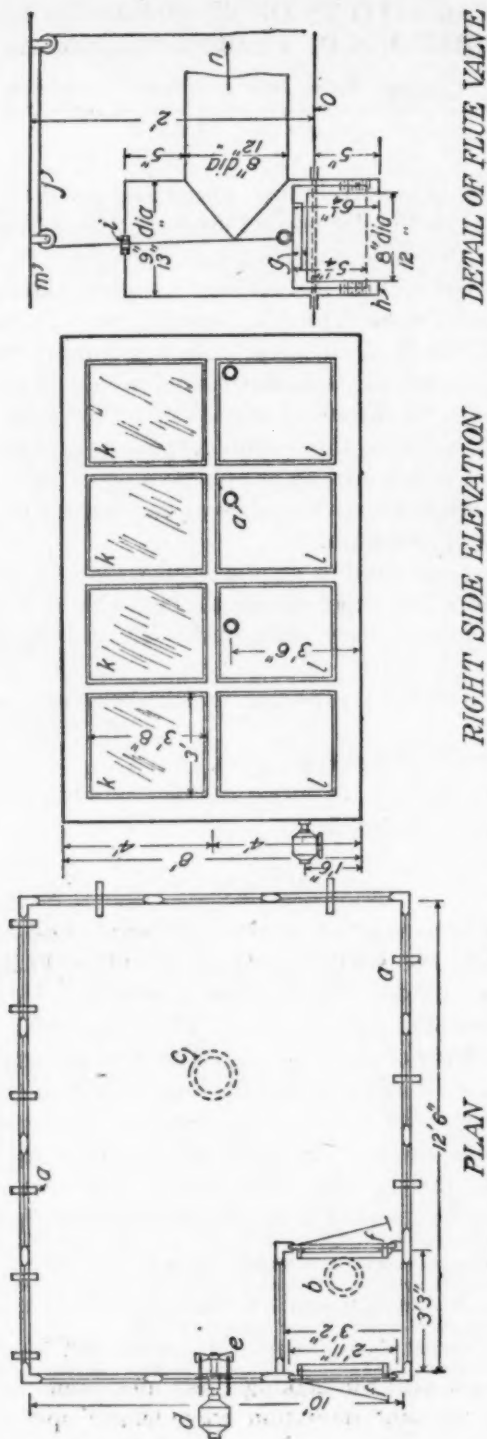
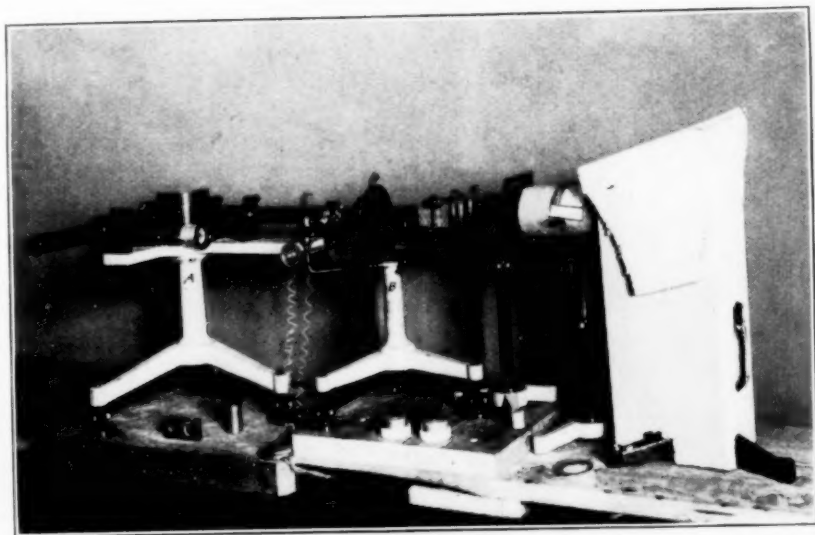


Fig. 1.—Details of the gas chamber used for experimental purposes at the Pittsburgh Experiment Station of the U. S. Bureau of Mines.



A. Gas chamber.



B. Spectrophotometer as set up for determination of carbon monoxide in the blood.

h
n
t
c
v
h
s
c
c
h
i
c
c
f
s
t
c

linseed oil and red lead, so that the joints between the glass and the metal are air-tight. Special valves are set in the roof for connecting the room with a flue leading to an exhaust fan. Each valve consists of a sheet-iron bell suspended in a tube of slightly larger diameter, which has an annular space containing mercury on the inside at the bottom. When the bell is seated in the annular space, the mercury seal makes the valve gas-tight. A chain attached to the bell runs over pulleys to a point where it may be reached on the outside of the chamber. Raising the bell into a closed space above a T in the pipe permits the gases in the chamber to be exhausted.

Experiments have shown that the room is nearly gas-tight. The interchange of gas between the inside and outside of the closed chamber during 24 hours amounts to less than 10 per cent of the chamber volume.

The "work" was done on a bicycle ergometer and calculated as foot-pounds. The carbon monoxide was made by dropping formic acid into hot concentrated sulphuric acid, and purified by passing through a soda-lime canister. An analysis of the gas used gave 99 per cent CO and 1 per cent air.

ANALYSIS OF BLOOD.

The analysis for the percentage saturation of the blood was made by the spectrophotometric method, described in detail in Appendix I, Report of Tunnel Gas Investigations No. 4, previously mentioned. In brief, this method is based on the observation that hemoglobin in combination with carbon monoxide has a power of absorbing light of certain wave-lengths different from that which it has in combination with oxygen, and that any mixture of the two combinations will show a proportional amount of that difference corresponding to the percentage of each in the mixture. By determining the extinction coefficient ($E = -\log \text{transmission}$) of carbon monoxide hemoglobin and of oxyhemoglobin, we obtain a measure of their difference in absorption ($E_{\text{CO}} - E_{\text{O}_2}$). Then by finding the extinction coefficient, E_x , due to a mixture of these hemoglobins, such as would be found in the blood of a victim of carbon monoxide poisoning, we can calculate the percentage of each.

Let $E_{\text{CO}} - E_{\text{O}_2} = M$, a number representing the total increase of extinction due to carbon monoxide, and $E_x - E_{\text{O}_2} = N$, or $E_{\text{CO}} - E_x = N^1$, N representing value in extinction resulting from some of the hemoglobin having combined with carbon monoxide, or N^1 the value representing the possible extinction increase of that portion of hemoglobin which remained uncombined with carbon monoxide; then $\frac{N}{M} \times 100 = \text{percentage of CO-Hb}$ or $\frac{N^1}{M} \times 100 = \text{percentage of O}_2\text{-Hb}$.

The apparatus used for making these measurements of absorption was a Hilger constant deviation wave-length spectrometer with a

Nutting polarization photometer (Pl. 1, B). The spectrometer, A, serves to disperse the light, making it possible to select the wavelength of light wherein a suitable difference of absorption occurs, and where it can best be measured. The photometer, B, measures that absorption and indicates it in the numerical values which serve as a basis for calculation. The values on the apparatus were read directly in extinction coefficients ($E = -\log T$, where E is the extinction coefficient and T the transmission). The technique in making analyses is to place a cell, C, containing the blood, which has been obtained from a puncture wound in the finger, and diluted 1:100 (0.1 c. c. to a volume of 10 c. c.) with 0.4 per cent ammonia, in front of the aperture to the right as viewed in the figure. As observed through the slit eyepiece, the field of vision is vertically tripartite, the upper and lower parts being representative of the light coming through the blood, while the central one represents that coming through a control cell of distilled water in front of the other aperture. The light coming through the distilled water can be reduced in intensity until it just equals that coming through the blood solution. When the three are of equal intensity, as judged by matching them, the extinction coefficient is read on circle D by the aid of a lens and small light E. In this manner a measure of the absorption is taken.

In making analyses, the main work is in reading the extinction coefficients due to the unknowns, then slowly bubbling a stream of O through the blood solution to displace the CO, and again reading the extinction coefficients due to the sample when determined as 100 per cent saturated with O; or by saturating CO and determining as 100 per cent saturated with CO. The former multiplied by or the latter divided by an existing constant ($\frac{E_{CO}}{E_{O_2}} = K$) between the hemoglobins will give a result representing the other hemoglobin.

The following typical set of readings will illustrate the method:

Unknown sample.	Extinction coefficient.
Oxygen bubbled for 20 minutes.	830 (average of three).
Oxygen bubbled for 30 minutes.	802 (average of three).
Oxygen bubbled for 40 minutes.	791 (average of three).
	789 (100 per cent saturated with oxygen).

$$\frac{E_{CO}}{E_{O_2}} = 1.42 \text{ from previous determination.}$$

Calculation:

$$\frac{(0.830 - 0.789)}{(0.789 \times 1.42 - 0.789)} \times 100 = 12.4 \text{ per cent saturated with CO hemoglobin.}$$

As a daily check on the factor (1.42), two or three specimens of the oxy-hemoglobin were saturated with carbon monoxide.

PROCEDURE.

In conducting this study of the physiological effects of carbon monoxide, a procedure was followed which, in our opinion, would

afford a satisfactory accumulation of data. Before the subject entered the chamber, an examination was made as to body temperature (rectal), pulse, respiration, and general condition. During the test a similar examination was made, with the addition of the taking of blood samples at sufficient intervals to determine the rate of absorption of the carbon monoxide. At the end of a test the subject was exercised so as to bring out latent symptoms, a record of which was continued until they had abated.

As a control on conditions, the air in the gas chamber was analyzed for carbon monoxide before starting and just before completing an experiment. In some of the tests, determination of the carbon monoxide content was also made at intermediate periods. These analyses were made by the iodine pentoxide liquid air method.⁴ Also, oxygen was supplied to compensate for that used by the subject (analyses of O_2 used = 98.5 per cent O_2 - 1.5 per cent N_2), and in the "long exposure," test pans of KOH, to remove the CO_2 given off, were placed on the floor before the circulating fan. An analysis of the air for these constituents was made at the end of the test.

Exposure of blood to 2 parts of CO in 10,000 of air, as calculated by Henderson,⁵ may possibly produce 28.5 per cent saturation of hemoglobin when equilibrium is reached; exposure to 3 parts in 10,000 is calculated to cause 37.4 per cent saturation; and 4 parts, according to his calculations, will produce 44.4 per cent saturation. Henderson presupposes that the affinity of CO for hemoglobin is 300 times that of oxygen for hemoglobin. He further uses 15 per cent as being the concentration of oxygen in the air of the lungs. He does not claim that the figures used are more than approximately correct, but that they are sufficiently accurate for indication as to what might take place. He also calls attention to the fact that many hours of exposure are required, and that the time is really indeterminate before the circulating blood would come to complete equilibrium with the CO in air.

In our work, exposure was made to concentrations of from 2 to 4 parts of CO in 10,000 of air for several hours. The conditions and results of these tests are given in Table I. In test No. 1 the subjects were exposed to approximately 2 parts in 10,000 for 6 hours. This caused a saturation of 16 to 20 per cent of the hemoglobin with CO. This was McConnell's first test, and the percentage of hemoglobin combined with CO was somewhat greater than that in either of the other subjects. He had a slight headache, but the subjective symptoms were extremely mild, and there were no symptoms of CO poisoning in any of the subjects after the test.

⁴Teague, M. C.: The Determination of Carbon Monoxide in Air Contaminated with Motor Exhaust Gas. *Jour. Ind. & Eng. Chem.*, vol. 12, October, 1920, pp. 964-968.

⁵Idem.

TABLE I.—Test for low concentrations of CO without exercise (sitting).

Subject.	Time in minutes.	Parts CO in 10,000.	Per cent blood-saturation with CO.	Respiration.	Temperature.	Pulse rate.	Symptoms.		Remarks.
							During test (time in minutes).	After test.	
TEST NO. 1.									
Sayers.....	Start. 60 120 180 240 300	2.1 1.8 .....	..... 8 11 16	14 12 15 18	98.9 99.4	76 72 78 80	Before.—Feels O. K. 100.—No symptoms. 200.—Slight tightness across forehead. 210.—Yawning. 250.—Slight tightness across forehead. 300.—All symptoms gone.	No symptoms.	Oxygen put in gas chamber during test. Pans containing KOH put in front of stirring fan to remove CO ₂ .
McConnell....	Start. 60 120 180 240 300	2.1 1.8 .....	..... 9 20	15 14 18	98.7 99.2	86 80 78 90	Before.—Feels good. 240.—No symptoms. 300.—Yawning. 320.—Eyes hurt, tightness across forehead. 340.—Drowsy, slight headache, increasing on exertion.	No symptoms.	Analysis of air after test: O ₂ —20.6; CO ₂ —0.3.
Meriwether...	Start. 60 120 180 240 300	2.1 1.8 .....	..... 5 14 17	14 18 21 18	98.3 99.0	78 84 92 92	Before.—Feels good. 240.—Yawning. 310.—Tightness across forehead, sleepy, yawning. 330.—Sleepy, no headache, feels lary.	No symptoms.	
TEST NO. 2.									
Sayers.....	Start. 60 120 180 240	3.1 2.7 2.8 2.7	..... 9 14 17 22	16 10	99.2 98.9	74 72	Before.—Feels good. 43.—Yawning. 65.—Yawning and sleepy. 105.—Yawning. 135.—Tightness across forehead. 215.—Slight headache, shortness of breath, fingers cold.	No ill effects on running up 40 stair steps. slow in acting, dull nerves. Did not sleep well. Feels good next morning.	Oxygen put in gas chamber during test. Pans containing KOH put in front of stirring fans to remove CO ₂ . Analysis of air after test: O ₂ —20.3; CO ₂ —0.7.

TEST NO. 3.				
Meriwether...	Start.	3.1	18	90.4
	60	2.7	12	.....
	120	.....	16	.....
	180	2.8	20	.....
	240	2.7	24	.....
			18	90.0
			18	82
Before.—Slight pain in right frontal sinus.				
155.—Yawning and slight frontal headache.				
185.—Slight nausea on exertion.				
215.—Dizzy.				
No ill effects on running up 40 stair steps. Headache increased after walking 11 blocks; of a throbbing basal type; continued until 1 a. m. Dull and irritable following day.				
Oxygen put in gas chamber during test. Pans containing KOH put in front of stirring pans to remove CO ₂ . Analysis of air after test: O ₂ =21.1; CO ₂ =0.6.				
Sayers.....	Start.	2.9	16	90.0
	120	3.1	17	.....
	240	.....	24	98.0
	300	2.6	27	98.6
			20	84
Before.—Feels good.				
167.—Stops reading, eyes hurt, skin on forehead feels tight.				
206.—Headache.				
234.—After eating lunch slight temple headache.				
250.—Headache basal in character, continuing until end of test.				
Meriwether...	Start.	2.9	16	98.4
	120	3.1	16	.....
	240	.....	23	98.0
	300	2.6	26	98.2
			18	88
Before.—Slight pain in right frontal sinus.				
72.—Slight dizziness.				
87.—Slept 15 minutes.				
102.—Severe temple headache, slight dizziness.				
234.—Ate lunch in gas chamber, headache increased.				
274.—Occipital headache and very dizzy on rising.				
Slight dizziness on running upstairs. Increasing headache during night, with chilly sensations, followed by sweating. Did not sleep well.				
Headache exaggerated on exertion such as running upstairs. Severe headache all night. Went to hospital for sinus operation next day.				
Did not sleep well. Dull headache during night. O. K. next morning.				
Analysis of air after test: O ₂ =20.6; CO=0.5.				
TEST NO. 4.				
Sayers.....	Start.	4.2	17	99.4
	30	.....	8	.....
	60	.....	13	.....
	90	.....	18	.....
	120	3.5	21	99.2
			15	80
Before.—Feels good.				
40.—Tightness across forehead.				
60.—Constant desire to yawn.				
80.—Tightness across forehead, increasing to headache on walking, feels very dull, slightly dizzy.				
120.—Slightly dizzy, on climbing stairs palpitation and puning. Frontal headache and dizziness.				
McConnell....	Start.	4.2	14	99.4
	30	.....	10	.....
	60	.....	15	.....
	90	.....	19	.....
	120	3.5	25	99.4
			19	88
Before.—Feels O. K.				
60.—Slight headache.				
85.—Dull headache on walking.				
120.—Headache, after going to bed, puffing, palpitation, and dizziness.				
Throbbing headache lasting until 10.30. Irritable and dull. Didn't feel like working.				

TABLE I.—*Test on low concentrations of CO without exercise (sitting)*—Continued.

Subject.	Time in minutes.	Parts CO in 10,000.	Per cent blood saturation with CO.	Respiration.	Temperature.	Pulse rate.	Symptoms.		Remarks.
							During test (time in minutes).	After test.	
TEST NO. 4—continued.									
Meriwether...	Start.	4.2	.....	15	90.0	86	Before.—Feels O. K.	After-symptoms lasting until 2 or 3 o'clock a. m. Dull and irritable next day.	
	30	.....	6	17	.....	84	60.—Tightness across forehead.		
	60	.....	15	19	.....	90	90.—Slight temple headache on walking or shaking head.		
	90	.....	19	21	.....	90	105.—Slight dizziness.		
	120	3.5	23	21	98.8	92	320.—All symptoms exaggerated on going upstairs. Palpitation and puffing quite noticeable.		

In test No. 2 (Table I) the subjects were exposed to approximately 3 parts of CO in 10,000 of air for four hours, remaining at rest during the entire test, at the end of which time the blood saturation was from 22 to 24 per cent. The symptoms were mild in character. The after effects were also very mild in one subject, whereas the other had symptoms, due chiefly, if not entirely, to a frontal sinus infection.

Test No. 3 (Table I) was practically a check on No. 2, with the variation of having a lunch after an exposure of 3 hours and 45 minutes, and an exposure for 5 instead of 4 hours. The lunch caused an increase in the heart rate and emphasized the symptoms of headache and slight dizziness. At the end of the test, 26 to 27 per cent of the hemoglobin of the blood was saturated with CO.

It will be noted that the blood saturation with CO at the end of four hours' exposure in test No. 3 was practically the same (22 to 24 per cent) as at the end of No. 2. It will also be noted that the rate of saturation is very much more rapid (about double) during the first hour than during any succeeding hour. After the first hour, the rate of saturation of the hemoglobin with CO was practically uniform.

The effects of exercise, after the test was completed, were noticeably more pronounced after five hours in test No. 3 than after four hours in test No. 2, due apparently to an increased hemoglobin saturation of 2 to 5 per cent and to the subject having eaten a lunch.

The subjects did not sleep well after either of the two tests, but Sayers felt practically normal the following morning. Meriwether's symptoms and after effects were probably exaggerated by or due chiefly to a frontal sinus infection for which he went to the hospital for treatment after test No. 3.

In test No. 4 (Table I) three subjects were exposed to an average of 4 parts of CO in 10,000 of air for two hours. All felt well before beginning the test, and mild symptoms, such as persistent yawning and slight headache, were noticed at the end of the first hour. After one and one-half hours' exposure, all were somewhat dizzy, and walking caused a more noticeable headache. At the end of the test (after two hours), all were somewhat dizzy, and climbing stairs caused palpitation of the heart and panting. The after symptoms were persistent headache, irritability, and inability to sleep well. On the following day the subjects were still somewhat irritable and dull. Of the hemoglobin of the blood of two subjects, 21 to 23 per cent was saturated with CO, which is no higher than in test No. 2, but the symptoms were more severe than in test No. 2. The third subject had a blood saturation of 28 per cent, which is comparable to that of subjects in test No. 3. This indicates, but of course does not definitely show, that the higher concentration of CO in air produces more severe symptoms even when the blood saturation with CO is no greater.

For any given concentration of CO in air, the rate of saturation of the hemoglobin with that gas should be much more rapid when a man is exercising than when he is at rest. This is due to the greater lung ventilation, which gives fresh and more abundant supply of CO to the blood, and to the more frequent exposure of the red blood cells to the CO, due to the more rapid circulation of the blood through the lungs.

That the above is true is borne out by the data which are given in Table II. Strenuous exercise was taken at intervals during exposure to concentrations ranging from $2\frac{1}{2}$ to 4 parts of CO in 10,000 of air. The exercise, as stated earlier in this report, was taken on a bicycle ergometer, and the amount of work done was calculated in foot-pounds. While there was a great difference in the amount of work done by the subjects, the amount represents strenuous exercise for the individual working. Both men worked at the same rate—about 4,500 foot-pounds per minute—but one was able to continue the work for a full five minutes, whereas the other could work only about half as long. After each working period the subjects rested for about 15 minutes. In test No. 1 (Table II), the subjects were exposed to $2\frac{1}{2}$ parts of CO in 10,000, which caused a saturation of from 14 to 16 per cent of the hemoglobin with CO at the end of one hour. The symptoms during the first half of the test were probably due chiefly to the severe exercise; during the latter half they were probably due to oxygen want in the tissues caused by both the exercise and the fact that a distinct portion of the hemoglobin combined with the CO. The subject doing the lesser amount of work in this test had more severe symptoms. This may have been caused by the fact that it was his first test of this nature, and the psychic effects emphasized the symptoms; but it was more likely due to the fact that he was in a less physically fit condition than the other subject as he was developing a frontal sinusitis.

TABLE II.—Test on low concentrations of CO with exercise.

Subject.	Time in minutes.	Parts CO in 10,000.	Per cent of blood saturation with CO.	Respiration.	Temperature.	Pulse rate.	Work done (in foot-pounds).	Symptoms.		Remarks.
								During test (time in minutes).	After test.	
TEST NO. 1.										
Sayers.....	Start.	2.5	16	99.4	78	67,272	Before.—Feels good.....	Pain in eyes, dull headache, head heavy.	Oxygen put in gas chamber during test. Analysis of air after test: O ₂ =21; CO ₂ =0.5
	15	2.6	3	30	.....	130	.....	15.—Slight headache, little dizzy, feels effects of exercise; sweating.
	30	2.6	8	26	.....	144	.....	30.—Headache gone, dizzy on moving.
	45	.....	14	23	.....	138	.....	60.—No other symptoms during test.
	After.	.....	.....	20	101.0	82	.....	.....
Meriwether ..	Start.	2.5	17	99.4	96	33,826	Before.—Feels good.....	Breathed oxygen for 30 minutes; all symptoms gone except lassitude and dullness.	
	15	2.6	4	30	.....	134	.....	15.—Yawning, dizzy, nauseated.
	30	2.6	7	28	.....	126	.....	30.—Very dizzy, nauseated on moving; weak, air hunger, sweating profusely.
	45	.....	16	28	.....	120	.....	45.—Dizzy, nauseated, weak, cold hands, feels faint.
	60	.....	16	.....	.....	.....	.....	60.—No additional symptoms.
TEST NO. 2.										
Sayers.....	Start.	3.6	17	98.8	76	67,195	Before.—Feels good.....	On running upstairs headache becomes basic. Just perceptible dizziness; did not sleep well.	Oxygen put in gas chamber during test. Analysis of air after test: O ₂ =20.7; CO ₂ =0.5.
	15	3.3	11	24	.....	134	.....	50.—Slight headache.
	30	3.3	11	24	.....	96	.....	.....
	45	.....	17	18	.....	105	.....	.....
	60	3.3	17	18	.....	99.4	96	.....	
Meriwether ..	Start.	3.6	18	98.8	90	32,700	Before.—Frontal headache due to sinus.	Severe headache lasting until going to sleep 1.00 a.m. Feels good next morning.	
	15	3.3	13	34	.....	136	.....	35.—Slight headache, dizziness.
	30	3.3	13	20	.....	90	.....	60.—Slightly nauseated.
	45	.....	17	26	.....	144	.....	.....
	60	3.3	17	22	99.6	90	.....	.....

TABLE II.—*Test on low concentrations of CO with exercise—Continued.*

Subj ect.	Time in min- utes.	Parts of CO in 10,000.	Per cent of blood sat- uration with CO.	Res- pira- tion.	Tem- pera- ture.	Pulse rate.	Work done (in foot- pounds).	Symptoms.		Remarks.
								(During test (time in minutes)).	After test.	
TEST NO. 3.										
Sayers.....	Start	4.4	17	98.8	72	62,292	Before.—Feels good.....	Basal headache of moderate severity.	No oxygen added. No analysis of air after test made.
	15	.....	.....	24	99.2	106	.....	30.—Tight feeling across forehead.
	30	.....	10	30	99.4	110	.....	40.—Sleepy, drowsy, and yawning.
	60	3.7	22	30	99.6	120	.....	42.—Slightly dizzy on quick moving.	
								50.—Puffing, shortness of breath, pal- pitation of heart.		
								60.—Slight basal headache.		

In test No. 2 (Table II) the subjects were exposed to 3.3 parts of CO in 10,000 and were working at the same rate as in test No. 1. At the end of 1 hour, 17 per cent of the hemoglobin was combined with CO. The symptoms were somewhat more pronounced at the end of this test than at the end of two hours' exposure, with the subject at rest, to a slightly less concentration (test No. 3, Table I), which produced a similar saturation of the hemoglobin with CO.

Only one subject was exposed in test No. 3 (Table II) to an average of about 4 parts of CO in 10,000. The total work was slightly less than that done by this subject in either of the previous tests, but was still very strenuous. At the end of the test 23 per cent of the hemoglobin was saturated with CO. This is practically the same percentage as resulted from the exposure of the same subject at rest for two hours to a similar concentration (test No. 4, Table I), but the symptoms, as would be predicted, were somewhat more pronounced. The after effects were of moderate severity, but were more marked than they were in case of exposure to 3.3 parts of CO in test No. 2, Table II.

The effects of temperature and humidity are usually neglected when a study is being made of the physiological effects of CO, as the experiments are generally made with those factors practically normal. As it is well known that high temperature and high humidity induce greater lung ventilation and more rapid circulation of the blood, it would appear that there should be a more rapid absorption of CO by the hemoglobin when these factors are present.

Table III gives the results of the effect of very extreme conditions of temperature and humidity. A temperature of 102° to 113° F., accompanied by the high humidity used in this experiment, may produce all the symptoms recorded in this test, with the possible exception of headache, which is unusual after exposure to high temperature and humidity alone.

TABLE III.—Test on low concentrations of CO with heat and humidity.

Subject.	Time, in minutes.	Parts CO in 10,000.	Per cent blood saturation with CO.	Respiration.	Temperature.	Pulse rate.	Symptoms.		Remarks.
							During test (time in minutes).	After test.	
Sayers.....	Start.	3.1	17	98.8	72	Before.—Feels good.	Basal headache, moderate severity....	No oxygen used during test. No analysis of air after test. No work done.
	10	.....	.....	.....	.....	.....	5.—Sweating freely.
	20	.....	10	30	101.4	110	24.—Sweating profusely.	
	60	3.2	16	30	102.8	120	27.—Room very uncomfortable, dizzy on rising. 38.—Room very comfortable. 40.—Sweating profusely, weak, dizzy, head feels full, slight headache. 50.—Shortness of breath, palpitation of the heart. 52.—Dull frontal headache. 60.—Slight basal headache.		

Temperature and humidity.

Time, in minutes.	Wet bulb.	Dry bulb.	Relative humidity.
Start	95.0	113	52
15	97.5	113	.....
30	98.0	111	65
45	96.0	108	72
48	97.5	107	.....
60	97.0	102	83

During the entire test the subject remained seated in a current of air moving at about 250 linear feet per minute. He wore only a suit of overalls and a pair of shoes. At the end of one hour, 16 per cent of the hemoglobin was combined with CO. This saturation is approximately equal to that found after 2 hours' exposure to a like concentration of CO (3 parts in 10,000), as that given in tests 2 and 3 (Table I), and is comparable to the effects of strenuous exercise in similar concentration as shown by Table II.

Only one test was carried out with high temperature and humidity, as the results are in concordance with those observed by the writers under similar conditions in the tests with automobile exhaust gases,⁶ and the results are considered sufficiently reliable and adequate to serve as a basis for conclusions.

SUMMARY OF PHYSIOLOGICAL EFFECTS OF LOW CONCENTRATIONS OF CARBON MONOXIDE UNDER VARYING CONDITIONS.

With the subject at rest.

1. The exposure for 6 hours to 2 parts of CO in 10,000 of air caused—

- a. Saturation of 16 to 20 per cent of the hemoglobin of the blood with CO.
- b. Very mild subjective symptoms of CO poisoning at the end of the test.
- c. No noticeable effects after the test.

2. The exposure to 3 parts of CO caused—

- a. Saturation of 22 to 24 per cent of the hemoglobin with CO after 4 hours, and 26 to 27 per cent after 5 hours.
- b. Symptoms at the end of 2 hours absent; after 4 hours, mild effects attributed to CO poisoning; and after 5 hours, moderate effects.
- c. After effects of 4 hours' exposure mild; of 5 hours' exposure, moderate.

3. The exposure to 4 parts of CO in 10,000 caused—

- a. Saturation of 15 to 19 per cent of the hemoglobin with CO at the end of 1 hour, and 21 to 28 per cent at the end of 2 hours.
- b. After effects, moderate to marked.

With the subject exercising strenuously.

1. The exposure for 1 hour to 2½ parts of CO in 10,000 caused—

- a. Saturation of 14 to 16 per cent of the hemoglobin with CO.
- b. Moderate symptoms of CO poisoning at the end of the test.
- c. After effects mild to moderate.

⁶ Teague, M. C.: The Determination of Carbon Monoxide in Air Contaminated with Motor Exhaust Gas. Jour. Ind. and Eng. Chem., vol. 12, October, 1920, pp. 964-968.

2. The exposure for 1 hour to 3.3 parts of CO in 10,000 caused—
 - a. Saturation of 17 per cent of the hemoglobin with CO.
 - b. Mild to moderate symptoms of CO poisoning.
 - c. After effects mild to moderate.
3. The exposure for 1 hour to 4 parts of CO in 10,000 caused—
 - a. Saturation of 23 per cent of the hemoglobin with CO.
 - b. Moderate symptoms of CO poisoning.
 - c. Moderate after effects.

With the subject at rest. Temperature and humidity high.

1. The exposure for 1 hour to 3.1 parts of CO in 10,000 caused—
 - a. Saturation of 16 per cent of the hemoglobin with CO.
 - b. Mild symptoms of CO poisoning.
 - c. Mild to moderate after effects.

CONCLUSIONS.

1. The combination of CO with hemoglobin takes place slowly when the subject is exposed to low concentrations and remains at rest, many hours being required before equilibrium is reached.

2. The rate of combination of CO with hemoglobin takes place much more rapidly during the first hour of exposure than during any succeeding hour, with the subject remaining at rest.

3. Strenuous exercise causes much more rapid combination of CO with hemoglobin than when the subject remains at rest. The symptoms of CO poisoning are emphasized by exercise.

4. High temperature and humidity, with a given concentration of CO, cause more rapid combination of CO with hemoglobin than do normal conditions of temperature and humidity.

All symptoms and effects described in this paper are called acute in character. None of the subjects has shown any permanent deleterious effects from the exposure to CO.

Acknowledgments.—Acknowledgment is made of the services of Dr. William J. McConnell, Passed Assistant Surgeon (R.), United States Public Health Service; Messrs. S. H. Katz and J. J. Bloomfield; the chemists of the gas analysis section, under G. W. Jones; and Messrs. G. S. McCaa and J. H. Zorn, of the Safety Service Section, all of the Pittsburgh Experiment Station, who willingly assisted in making the above study.

REGULATIONS GOVERNING ALLOTMENT OF FUNDS FOR VENEREAL DISEASE PREVENTION WORK.

PROMULGATED BY THE SECRETARY OF THE TREASURY UNDER AUTHORITY PROVIDED IN SECTION 6, CHAPTER XV, OF THE ACT APPROVED JULY 9, 1918 (CH. 143, 40 STAT. L. 886), AND IN ACCORDANCE WITH DECISION OF THE COMPTROLLER GENERAL DATED APRIL 10, 1922 (A. D. 6573).

Public No. 145, Sixty-seventh Congress (H. R. 9724), "An act making appropriations for the Treasury Department for the fiscal year ending June 30, 1923, and for other purposes," contains the following paragraph:

"For the maintenance and expenses of the Division of Venereal Diseases, established by sections 3 and 4, Chapter XV, of the act approved July 9, 1918, including personal and other services in the field and in the District of Columbia, \$400,000, of which sum \$225,000 shall be allotted to the States for cooperative work in the prevention and control of such diseases."

The method of paying allotments to the several States shall be as follows:

"The statute requires that the allotment to each State shall be in the proportion which its population bears to the population of the continental United States, exclusive of Alaska and the Canal Zone, according to the last preceding United States census, the term "State" to be held to include the District of Columbia, such allotment to be conditioned upon appropriation of a like amount by the State for the prevention, control, and treatment of venereal diseases.

"Upon qualification by a State, one-fourth of the amount due this State to be paid to the State treasurer by accounting officer's settlement upon certification by the Surgeon General of the Public Health Service to the effect that the State has qualified for its allotment in accordance with the provisions set forth in the preceding paragraph.

"The remainder of the allotment due the State to be paid to the State treasurer in a similar manner at the beginning of each subsequent quarter of the fiscal year."

State boards or departments of health receiving their respective allotments shall agree to the following cooperative measures under which their appropriation shall be expended:

1. To have in operation, through a legislative enactment or a State board of health regulation having the effect of law, regulations in conformity with the suggestions approved by the Surgeon General of the Army, Navy, and United States Public Health Service, for the prevention of venereal diseases. The minimum requirements of these rules are—

- (a) Venereal diseases must be reported to the local health authorities in accordance with State regulations approved by the United States Public Health Service.

(b) Penalty to be imposed upon physicians or others required to report venereal infections for failure to do so.

(c) Cases to be investigated, so far as practicable, to discover and control sources of infection.

(d) The spread of venereal diseases should be declared unlawful.

(e) Provision to be made for control of infected persons who do not cooperate in protecting others from infection.

(f) The travel of venereally infected persons within the State to be controlled by State boards of health by definite regulations that will conform in general to the interstate quarantine regulations.

(g) Patients to be given a printed circular of instructions informing them of the necessity of measures to prevent the spread of infection and of the importance of continuing treatment.

2. A representative of the Public Health Service shall be assigned to each State receiving allotments, for the general purpose of cooperating with the State health officer in supervising the venereal control work in the State. This representative to be selected by the State health authorities and to be approved and recommended for appointment by the Surgeon General of the Public Health Service. The salary of this representative will be paid from State funds, except a nominal salary which will be paid by the United States Public Health Service. The general plan of work for the State bureau of venereal diseases will be:

(a) Securing reports of venereal infections from physicians and others required to report in accordance with State laws.

(b) Suppressive measures, including the isolation and treatment in detention hospitals of infected persons who are unable or unwilling to take measures to prevent themselves from becoming a menace to others; the establishment of free clinics for the treatment of venereal diseases; and the elimination of conditions favorable to the spread of venereal infections.

(c) Extension of facilities for early diagnosis and treatment through laboratory facilities for exact diagnosis and scientific determination of condition before release as noninfectious in accordance with recognized procedure.

(d) Educational measures to include informing the general public, as well as infected individuals, in regard to the nature and manner of spread of venereal diseases and the measures that should be taken to combat them.

(e) Cooperation with local civil authorities in their efforts to suppress public and clandestine prostitution. The clinics referred to under (b) will form centers from which the other measures may be conducted by discovering the presence of infections, the securing of data for enforcing the regulations for reporting these diseases, and the institution of educational measures appropriate to particular communities.

(f) Accurate detailed records must be kept of all the activities of the venereal disease work. These will include careful records of each case treated, amount of arsphenamine used, final results, and disposition made of patients. Copies of these records must be forwarded to the Surgeon General, United States Public Health Service, as a report, at such intervals as they may be requested, and in accordance with instructions regarding the form of report.

3. Local funds that may be available, or that may become available from legislative appropriations or any other source, for venereal disease control, shall be used by the State or city health authorities having jurisdiction, for the extension of the work, and such local funds must not be conserved through the expenditure of the funds that are allotted by the Congress through the United States Public Health Service.

4. In extension of the educational measures, the State's health authorities shall exert their efforts and influence for the organization of a State venereal disease control committee or other organization that will be unofficial in character, but a valuable cooperative agency for furthering the comprehensive plan for nation-wide venereal disease control.

5. The State health authorities shall take such measures as may be found practicable and decided upon in conference between the Public Health Service and State boards of health representatives for the purpose of securing such additional legislation as may be required to control the spread of venereal infections. Action shall be taken to limit or suppress the activities of advertising "specialists" and quacks by prosecuting them under State laws, or such other measures as may be applicable and effective.

6. In expending the sum allotted a State, protection from venereal diseases of the military and naval forces located within each particular State shall receive proper consideration.

7. The State allotment and the amount of State funds used to secure the allotment shall be expended along general standard lines by all States approximately as follows:

(a) For treatment of infected persons in hospitals, clinics, and other institutions, including arsphenamine and other drugs, 50 per cent of the allotment.

(b) In carrying out educational measures, 20 per cent.

(c) In carrying out repressive measures, 20 per cent.

(d) In general administration and other activities of venereal-disease control work, 10 per cent.

(This distribution is provisional and subject to modification after conference and agreement between each State and the United

States Public Health Service to meet best the needs of the particular State.)

8. In carrying out the general venereal disease control program the administrative organization of the United States Public Health Service will be available at all times to State organizations in cooperative work, and assistance will be given to States whenever possible through the detail of employees, the securing of arsphenamine, providing sample literature for educational measures, and in other practicable ways.

(Signed)

A. W. MELLON,
Secretary of the Treasury.

WASHINGTON, May 1, 1922.

INTERFERENCE WITH MILK SUPPLY OF NEW YORK CITY RESTRAINED.

The following is the opinion of Judge Guy of the New York Supreme Court at special term, New York County, in the case of *Gottlieb v. Matchin*, reported in 191 New York Supplement, 777. A motion to restrain the defendants from interfering with the milk supply of New York City was granted.

Uninterrupted delivery of the milk supply to the people of this city is so vital for the preservation of the general health of the community, and especially children and invalids, that any organized effort to interfere therewith must be regarded as an act of hostility to the public weal, and such an unlawful purpose as calls for the exercise of the full authority of the courts and police authorities. Whatever may be the right or wrong of the present wage controversy, the health of this entire community can not be made subservient thereto. Picketing and other acts alleged against the defendants have been held not to be unlawful under ordinary conditions, but when linked with a purpose inimical to the welfare of the community they become unlawful. This court would hesitate in an ordinary wage dispute to grant the relief asked for herein, but feels that it is its duty to assert the full power of the court under the circumstances to protect the lives and health of the people of New York. The motion to restrain the defendants is therefore granted, with notice to the defendants that any disobedience of the order herein will be visited with the fullest measure of punishment within the power of this court.

THE COMPARATIVE ANTISCORBUTIC VALUES OF MILK—COR- RECTIONS TO TABLES.

In the article, "The Comparative Antiscorbutic Values of Milk," Public Health Reports, April 28, 1922, pages 989-1021, the figures representing the weights of certain guinea pigs should have been indicated as follows:

Table II, p. 995, pigs Nos. 48-64, p. 996, pigs Nos. 73-98; Table III, p. 999, pigs Nos. 142-166; Table IV, p. 1000, pigs Nos. 113-116 and 133-156; and Table V, p. 1001, pigs Nos. 146-171, weights are "initial" and "maximum." Table XIV, p. 1009, pigs Nos. 257-262; Table XV, p. 1009, pigs Nos. 265-298, weights are "initial" and "final;" pig No. 297, "initial," "minimum," and "final;" pigs Nos. 305, 308, and 313, "initial" and "final." Table XVI, p. 1010, pigs Nos. 268-287; Table XVII, p. 1010, pigs Nos. 273-310 and 291-304; Table XVIII, p. 1011, pigs Nos. 278-281, weights are "initial" and "final."

DEATHS DURING WEEK ENDED APR. 29, 1922.

Summary of information received by telegraph from industrial insurance companies for week ended Apr. 29, 1922, and corresponding week, 1921. (From the Weekly Health Index, May 2, 1922, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Apr. 29, 1922.	Corresponding week, 1921.
Policies in force.....	49,096,129	46,697,361
Number of death claims.....	9,519	8,410
Death claims per 1,000 policies in force, annual rate.....	10.1	9.4

Deaths from all causes in certain large cities of the United States during the week ended Apr. 29, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, May 2, 1922, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1922.	Week ended Apr. 29, 1922.		Annual death rate per 1,000, corre- sponding week, 1921.	Deaths under 1 year.		Infant mortality rate, week ended Apr. 29, 1922. ³
		Total deaths.	Death rate. ¹		Week ended Apr. 29, 1922.	Corre- sponding week, 1921.	
Total.....	27,855,509	7,103	13.3	12.4	939	893	.....
Akron, Ohio.....	* 208,435	25	6.3	5.7	8	4	85
Albany, N. Y.....	116,223	54	24.2	13.6	3	1	67
Atlanta, Ga.....	220,047	67	15.9	16.3	10	7	.....
Baltimore, Md.....	762,222	180	12.3	12.5	20	22	56
Birmingham, Ala.....	191,017	37	10.1	15.4	5	10	.....
Boston, Mass.....	764,017	240	16.4	14.0	28	27	75
Bridgeport, Conn.....	* 143,555	34	12.3	10.1	5	3	62
Buffalo, N. Y.....	528,163	125	12.4	13.4	16	25	63
Cambridge, Mass.....	110,944	39	18.3	16.5	0	2	0
Camden, N. J.....	121,915	43	18.4	7.8	8	1	122
Chicago, Ill.....	2,833,288	721	13.3	11.8	153	94	.....
Cincinnati, Ohio.....	404,865	115	14.9	14.3	9	13	60
Cleveland, Ohio.....	854,003	149	9.1	10.6	22	24	57
Columbus, Ohio.....	253,455	61	12.5	11.5	3	4	32
Dallas, Tex.....	171,974	42	12.7	11.7	4	0	.....
Dayton, Ohio.....	161,824	28	9.0	11.5	8	5	136
Denver, Colo.....	267,591	73	14.2	13.9	6	5	.....
Detroit, Mich.....	* 193,678	233	12.2	10.3	42	52	81
Fall River, Mass.....	120,790	36	15.5	11.7	11	4	154
Fort Worth, Tex.....	114,717	26	11.8	.....	2	.....	.....
Grand Rapids, Mich.....	145,572	32	11.6	10.3	3	2	50
Houston, Tex.....	150,087	37	12.9	13.4	10	4	.....
Indianapolis, Ind.....	333,257	99	15.5	11.8	14	11	107
Jersey City, N. J.....	305,911	77	13.1	11.4	15	12	96
Kansas City, Kans.....	105,688	29	14.3	10.0	3	2	69
Kansas City, Mo.....	343,988	92	13.9	13.8	19	9	.....
Los Angeles, Calif.....	634,866	190	15.6	15.7	18	17	75
Louisville, Ky.....	236,357	79	17.4	17.2	9	4	97
Lowell, Mass.....	114,423	25	11.4	9.2	4	2	67

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1921. Cities left blank are not in the registration area for births.

³ Enumerated population Jan. 1, 1922.

Deaths from all causes in certain large cities of the United States during the week ended Apr. 29, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, May 2, 1922, issued by the Bureau of the Census, Department of Commerce)—Continued.

City.	Estimated population July 1, 1922.	Week ended Apr. 29, 1922.		Annual death rate per 1,000, corresponding week, 1921.	Deaths under 1 year.		Infant mortality rate, week ended Apr. 29, 1922.
		Total deaths.	Death rate.		Week ended Apr. 29, 1922.	Corresponding week, 1921.	
Memphis, Tenn.....	167,862	58	18.0	16.1	6	4	°
Milwaukee, Wis.....	476,603	99	10.8	11.0	21	21	103
Minneapolis, Minn.....	400,970	94	12.2	11.2	13	12	71
Nashville, Tenn.....	122,832	46	19.5	20.9	4	3	.....
New Bedford, Mass.....	127,542	33	13.5	9.2	7	5	104
New Haven, Conn.....	169,987	54	16.6	10.9	4	1	49
New Orleans, La.....	309,616	93	12.1	17.0	7	11	.....
New York, N. Y.....	5,839,746	1,503	13.4	12.0	206	208	80
Newark, N. J.....	431,792	111	13.4	12.0	16	15	71
Norfolk, Va.....	124,915	19	7.9	10.3	6	3	106
Oakland, Calif.....	233,279	67	15.0	11.1	12	5	151
Omaha, Nebr.....	200,739	48	12.5	9.5	4	3	43
Paterson, N. J.....	138,521	29	10.9	12.5	3	4	46
Philadelphia, Pa.....	1,894,500	482	13.3	13.9	47	68	56
Pittsburgh, Pa.....	607,902	161	13.8	15.1	27	23	86
Portland, Oreg.....	269,240	53	10.3	10.2	3	3	30
Providence, R. I.....	241,011	69	14.9	13.7	10	5	79
Richmond, Va.....	178,365	45	13.2	11.9	5	9	61
Rochester, N. Y.....	311,548	79	13.2	11.6	15	9	115
St. Louis, Mo.....	795,008	195	12.8	11.9	16	17	.....
St. Paul, Minn.....	239,836	57	12.4	10.1	9	4	84
Salt Lake City, Utah.....	123,918	26	10.9	11.1	6	8	89
San Francisco, Calif.....	529,792	135	13.3	14.1	8	13	46
Seattle, Wash.....	* 315,312	55	9.1	9.9	6	5	51
Spokane, Wash.....	104,445	33	16.5	15.0	5	2	107
Springfield, Mass.....	140,652	31	11.5	10.0	2	4	30
Syracuse, N. Y.....	181,012	49	14.1	13.2	8	7	96
Toledo, Ohio.....	260,717	59	11.8	12.5	9	7	88
Trenton, N. J.....	125,075	53	22.1	13.6	14	5	214
Washington, D. C.....	* 457,571	135	16.1	13.3	18	11	103
Wilmington, Del.....	115,568	32	14.4	14.3	5	6	97
Worcester, Mass.....	188,449	49	13.6	11.8	4	1	43
Yonkers, N. Y.....	105,422	25	12.4	7.6	8	5	167
Youngstown, Ohio.....	144,970	36	12.9	13.1	6	13	79

* Enumerated population Jan. 1, 1920.

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended May 6, 1922.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

ARKANSAS.		CONNECTICUT—continued.	
	Cases.		Cases.
Cerebrospinal meningitis.....	1	Chicken pox.....	32
Chicken pox.....	3	Conjunctivitis (infectious).....	1
Diphtheria.....	1	Diphtheria:	
Influenza.....	39	Bridgeport.....	10
Malaria.....	31	Scattering.....	26
Measles.....	2	German measles.....	10
Pellagra.....	5	Influenza.....	17
Poliomyelitis.....	1	Lethargic encephalitis.....	2
Scarlet fever.....	1	Measles:	
Smallpox.....	3	Bridgeport.....	21
Trachoma.....	1	Cromwell.....	8
Tuberculosis.....	20	East Haven.....	10
Typhoid fever.....	3	Hartford.....	101
Whooping cough.....	6	New Haven.....	72
		New London.....	13
		Norwich.....	9
		Stamford.....	21
		West Haven.....	13
		Scattering.....	39
		Mumps.....	10
		Pneumonia (lobar).....	45
		Poliomyelitis.....	1
		Scarlet fever:	
		Ansonia.....	8
		Bridgeport.....	8
		Stamford.....	13
		Scattering.....	31
		Septic sore throat.....	1
		Smallpox.....	13
		Tetanus.....	1
		Tuberculosis (all forms).....	42
		Typhoid fever.....	1
		Whooping cough.....	19
		FLORIDA.	
		Diphtheria.....	18
		Influenza.....	27
		Malaria.....	19
		CONNECTICUT.	
Anthrax.....	1		
Cerebrospinal meningitis.....	5		

FLORIDA—continued.

	Cases.
Pneumonia.....	46
Poliomyelitis.....	2
Scarlet fever.....	1
Smallpox.....	4
Typhoid fever.....	18

GEORGIA.

Cerebrospinal meningitis.....	1
Chicken pox.....	9
Diphtheria.....	5
Dysentery (amebic).....	1
Dysentery (bacillary).....	9
Hookworm disease.....	8
Influenza.....	33
Malaria.....	17
Measles.....	1
Mumps.....	2
Pellagra.....	1
Pneumonia.....	4
Scarlet fever.....	7
Septic sore throat.....	1
Smallpox.....	12
Tuberculosis (pulmonary).....	10
Typhoid fever.....	4
Whooping cough.....	1

ILLINOIS.

Cerebrospinal meningitis:	
Canton.....	1
Centraia.....	1
Chicago.....	3
Piano.....	1
Diphtheria:	
Chicago.....	114
Scattering.....	67
Influenza.....	30
Lethargic encephalitis:	
Chicago.....	2
Moline.....	1
Pneumonia.....	333
Scarlet fever:	
Chicago.....	58
Scattering.....	69
Smallpox.....	26
Typhoid fever.....	15
Whooping cough.....	102

INDIANA.

Cerebrospinal meningitis—Henry County.....	1
Diphtheria.....	56
Poliomyelitis—Allen County.....	1
Rabies in animals:	
Johnson County.....	1
Marion County.....	1
Scarlet fever.....	64
Smallpox.....	66
Typhoid fever.....	7

IOWA.

Diphtheria.....	13
Scarlet fever.....	52
Smallpox.....	19

KANSAS.

	Cases.
Cerebrospinal meningitis.....	2
Chicken pox.....	64
Diphtheria.....	39
German measles.....	1
Influenza.....	12
Lethargic encephalitis.....	1
Measles.....	20
Mumps.....	7
Pneumonia.....	18
Poliomyelitis.....	1
Scarlet fever.....	45
Smallpox.....	16
Trachoma.....	1
Tuberculosis.....	62
Typhoid fever.....	3
Whooping cough.....	24

LOUISIANA.

Diphtheria.....	11
Influenza.....	27
Scarlet fever.....	3
Smallpox.....	12
Typhoid fever.....	17

MARYLAND.¹

Cerebrospinal meningitis.....	1
Chicken pox.....	55
Diphtheria.....	32
German measles.....	3
Influenza.....	42
Lethargic encephalitis.....	2
Malaria.....	3
Measles.....	335
Mumps.....	139
Ophthalmia neonatorum.....	1
Paratyphoid fever.....	1
Pneumonia (all forms).....	72
Scarlet fever.....	45
Septic sore throat.....	3
Tuberculosis.....	62
Typhoid fever.....	8
Whooping cough.....	49

MASSACHUSETTS.

Cerebrospinal meningitis.....	3
Chicken pox.....	62
Conjunctivitis (suppurative).....	15
Diphtheria.....	137
Dysentery.....	1
German measles.....	17
Hookworm disease.....	1
Influenza.....	12
Lethargic encephalitis.....	9
Measles.....	815
Mumps.....	94
Ophthalmia neonatorum.....	26
Pneumonia (lobar).....	96
Scarlet fever.....	183
Septic sore throat.....	1
Tetanus.....	3
Trachoma.....	5
Tuberculosis (all forms).....	160
Typhoid fever.....	9
Whooping cough.....	87

¹ Week ended Friday.

MINNESOTA.

	Cases ¹
Cerebrospinal meningitis.....	3
Chicken pox.....	15
Diphtheria.....	50
Influenza.....	3
Measles.....	105
Pneumonia.....	5
Scarlet fever.....	105
Smallpox.....	51
Tuberculosis.....	115
Typhoid fever.....	4
Whooping cough.....	10

MISSISSIPPI.

Diphtheria.....	9
Smallpox.....	3
Typhoid fever.....	12

MISSOURI.

Chicken pox.....	42
Diphtheria.....	37
Epidemic sore throat.....	7
Influenza.....	20
Measles.....	19
Mumps.....	14
Ophthalmia neonatorum.....	1
Pneumonia.....	26
Scarlet fever.....	51
Smallpox.....	24
Tuberculosis.....	41
Typhoid fever.....	9
Whooping cough.....	13

MONTANA.

Diphtheria.....	11
Rocky Mountain spotted or tick fever:	
Clara.....	1
Roundup.....	1
Scarlet fever.....	5
Smallpox.....	14
Typhoid fever.....	1

NEBRASKA.

Cerebrospinal meningitis—Omaha.....	1
Chicken pox.....	14
Diphtheria.....	8
Influenza.....	20
Lethargic encephalitis—Omaha.....	1
Measles:	
Fillmore County.....	9
Lincoln.....	56
Omaha.....	30
Scattering.....	13
Mumps.....	10
Pneumonia.....	1
Scarlet fever.....	18
Smallpox.....	19
Tuberculosis.....	13
Whooping cough.....	3

NEW JERSEY.

Anthrax.....	1
Cerebrospinal meningitis.....	4
Chicken pox.....	113
Diphtheria.....	103
Influenza.....	15
Malaria.....	4
Measles.....	967

NEW JERSEY—continued.

	Cases.
Pneumonia.....	105
Polioomyelitis.....	1
Scarlet fever.....	230
Typhoid fever.....	3
Whooping cough.....	114

NEW MEXICO.

Chicken pox.....	2
Conjunctivitis.....	1
Diphtheria.....	24
Influenza.....	1
Malaria.....	1
Measles.....	1
Mumps.....	3
Pneumonia.....	9
Scarlet fever.....	10
Smallpox.....	2
Tuberculosis.....	18
Whooping cough.....	3

NEW YORK.

(Exclusive of New York City.)

Diphtheria.....	120
Influenza.....	68
Lethargic encephalitis.....	5
Measles.....	726
Pneumonia.....	324
Polioomyelitis.....	1
Scarlet fever.....	223
Typhoid fever.....	32
Whooping cough.....	174

NORTH CAROLINA.

Cerebrospinal meningitis.....	4
Chicken pox.....	70
Diphtheria.....	17
German measles.....	3
Measles.....	86
Scarlet fever.....	22
Septic sore throat.....	2
Smallpox.....	22
Typhoid fever.....	9
Whooping cough.....	189

OREGON.

Chicken pox.....	14
Diphtheria.....	10
Measles.....	3
Mumps.....	9
Pneumonia.....	11
Scarlet fever.....	7
Septic sore throat.....	1
Smallpox:	
Portland.....	9
Scattering.....	8
Tuberculosis.....	6
Typhoid fever.....	1
Whooping cough.....	2

SOUTH DAKOTA.

Chicken pox.....	7
Diphtheria.....	5
Influenza.....	1
Measles.....	6
Pneumonia.....	10

¹Deaths

SOUTH DAKOTA—continued.

	Cases.
Scarlet fever.....	30
Smallpox.....	18
Tuberculosis.....	5
Typhoid fever.....	1

TEXAS.

Chicken pox.....	76
Diphtheria.....	33
Influenza.....	101
Pellagra.....	7
Pneumonia.....	40
Scarlet fever.....	21
Smallpox.....	90
Typhoid fever.....	7

VERMONT.

Chicken pox.....	12
Diphtheria.....	3
Measles.....	34
Mumps.....	8
Pneumonia.....	2
Scarlet fever.....	35
Typhoid fever.....	2
Whooping cough.....	29

WASHINGTON.

Chicken pox.....	29
Diphtheria.....	18
Mumps.....	46
Pneumonia.....	2
Scarlet fever.....	23
Septic sore throat.....	1
Smallpox:	
Spokane.....	11
Scattering.....	17
Tuberculosis.....	48
Typhoid fever.....	5
Whooping cough.....	26

WEST VIRGINIA.

	Cases.
Diphtheria.....	16
Measles:	
Martinsburg.....	11
Moundsville.....	10
Scattering.....	6
Scarlet fever.....	15
Smallpox.....	5
Tuberculosis:	
Wheeling.....	54
Scattering.....	2

WISCONSIN.

Milwaukee:	
Cerebrospinal meningitis.....	1
Chicken pox.....	32
Diphtheria.....	9
German measles.....	1
Influenza.....	1
Measles.....	5
Pneumonia.....	5
Scarlet fever.....	13
Smallpox.....	3
Tuberculosis.....	17
Whooping cough.....	97
Scattering:	
Cerebrospinal meningitis.....	1
Chicken pox.....	54
Diphtheria.....	18
German measles.....	9
Influenza.....	124
Measles.....	16
Ophthalmia neonatorum.....	1
Pneumonia.....	17
Scarlet fever.....	77
Smallpox.....	59
Tuberculosis.....	24
Typhoid fever.....	3
Whooping cough.....	52

Delayed Reports for Week Ended Apr. 29, 1922.

ALABAMA.

	Cases.
Chicken pox.....	18
Diphtheria.....	8
Hookworm disease.....	41
Influenza.....	24
Ma'aria.....	5
Pellagra.....	3
Pneumonia.....	5
Scarlet fever.....	2
Septic sore throat.....	3
Smallpox.....	16
Tuberculosis.....	25
Typhoid fever.....	9

CALIFORNIA.

Cerebrospinal meningitis:	
Los Angeles County.....	1
Diphtheria.....	52
Influenza.....	87
Lethargic encephalitis:	
Tulare County.....	1
Measles.....	22
Scarlet fever.....	84
Smallpox.....	52
Typhoid fever.....	3

CONNECTICUT.

	Cases.
Cerebrospinal meningitis.....	3
Chicken pox.....	40
Conjunctivitis (infectious).....	3
Diphtheria:	
Bridgeport.....	11
Scattering.....	32
Dysentery (bacillary).....	1
German measles.....	14
Influenza.....	13
Lethargic encephalitis.....	3
Measles:	
Bridgeport.....	15
Cheshire.....	10
Hartford.....	80
New Haven.....	59
New London.....	17
Stamford.....	27
West Haven.....	9
Scattering.....	41
Mumps.....	14
Pneumonia (lobar).....	32
Scarlet fever:	
Bridgeport.....	22
Scattering.....	36

CONNECTICUT—continued.

	Cases.
Septic sore throat.....	1
Smallpox:	
Westport.....	8
Scattering.....	11
Trachoma.....	2
Tuberculosis (all forms).....	30
Typhoid fever.....	5
Whooping cough.....	31

DELAWARE.

Chicken pox.....	11
Influenza.....	1
Measles.....	2
Pneumonia.....	4
Scarlet fever:	
Wilmington.....	23
Scattering.....	10
Tuberculosis.....	6

DISTRICT OF COLUMBIA.

Chicken pox.....	31
Diphtheria.....	11
Influenza.....	3
Measles.....	14
Scarlet fever.....	8
Smallpox.....	1
Tuberculosis.....	32
Whooping cough.....	6

INDIANA.

Cerebrospinal meningitis:	
Steuben County.....	1
Diphtheria.....	31
Poliomyelitis:	
Jasper County.....	1
Rabies in animals:	
Greene County.....	1
Hamilton County.....	1
Marion County.....	1
Scarlet fever.....	44
Smallpox.....	36
Typhoid fever.....	5

KENTUCKY.

Cerebrospinal meningitis:	
Hardin County.....	1
Jefferson County.....	1
Chicken pox.....	5
Diphtheria.....	9
German measles.....	1
Influenza.....	6
Measles:	
Jefferson County.....	9
Scattering.....	21
Pneumonia.....	14
Scarlet fever.....	6
Septic sore throat.....	2
Smallpox.....	5
Tonsillitis.....	1
Trachoma.....	8

KENTUCKY—continued.

	Cases.
Tuberculosis:	
Jefferson County.....	38
Scattering.....	6
Typhoid fever.....	4
Whooping cough.....	18

MAINE.

Chicken pox.....	6
Diphtheria.....	8
German measles.....	1
Influenza.....	20
Measles.....	5
Pneumonia.....	6
Poliomyelitis.....	1
Scarlet fever.....	57
Septic sore throat.....	2
Tuberculosis.....	8
Typhoid fever.....	6
Whooping cough.....	6

MINNESOTA.

Chicken pox.....	24
Diphtheria.....	44
Influenza.....	11
Measles.....	78
Pneumonia.....	9
Poliomyelitis.....	1
Scarlet fever.....	96
Smallpox.....	59
Tuberculosis.....	73
Typhoid fever.....	2
Whooping cough.....	2

MISSOURI.

Anthrax.....	1
Cerebrospinal meningitis.....	1
Chicken pox.....	16
Diphtheria.....	45
Influenza.....	29
Measles.....	11
Mumps.....	19
Pneumonia.....	20
Scarlet fever.....	43
Smallpox.....	2
Tuberculosis.....	41
Typhoid fever.....	3
Whooping cough.....	29

WYOMING.

Cerebrospinal meningitis.....	1
Chicken pox.....	9
Influenza.....	76
Measles.....	1
Mumps.....	12
Pneumonia.....	23
Scarlet fever.....	5
Smallpox.....	17
Tuberculosis.....	6
Typhoid fever.....	2
Whooping cough.....	2

CITY REPORTS FOR WEEK ENDED APR. 22, 1922.

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Apr. 22, 1922.		City.	Median for previous years.	Week ended Apr. 22, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
California:				New Hampshire:			
San Diego.....	0	1	1	Dover.....	0		1
San Francisco.....	1	1		New York:			
Santa Ana.....		1	1	New York.....	8	4	1
Connecticut:				Niagara Falls.....	0	1	
Bridgeport.....	0	1		North Carolina:			
Illinois:				Rocky Mount.....	0		1
Chicago.....	1	3	4	Pennsylvania:			
Iowa:				Philadelphia.....	1	1	
Sioux City.....	0	1		Pittsburgh.....	1	1	
Massachusetts:				Texas:			
Brockton.....	0	1	1	Fort Worth.....	0	1	1
Michigan:				West Virginia:			
Detroit.....	2		1	Huntington.....	0		1
Minnesota:				Wisconsin:			
Duluth.....	0	1		Milwaukee.....	2	2	

DIPHTHERIA.

See p. 1161; also Telegraphic weekly reports from States, p. 1149.

INFLUENZA.

City.	Cases.		Deaths, week ended Apr. 22, 1922.		Cases.		Deaths, week ended Apr. 22, 1922.
	Week ended Apr. 23, 1921.	Week ended Apr. 22, 1922.			Week ended Apr. 23, 1921.	Week ended Apr. 22, 1922.	
Alabama:				Indiana:			
Birmingham.....			1	Anderson.....			1
California:				Gary.....			1
Berkeley.....	1			Kansas:			
Los Angeles.....	2	16	4	Coffeyville.....	1		
Oakland.....		4	1	Kentucky:			
Pasadena.....	1	4	1	Louisville.....		1	
Sacramento.....	1			Louisiana:			
San Diego.....		2	1	New Orleans.....		3	3
San Francisco.....	4	15	1	Maine:			
Santa Cruz.....	4			Lewiston.....			1
Stockton.....	1			Maryland:			
Colorado:				Baltimore.....	9		
Denver.....			4	Massachusetts:			
Bridgeport.....	1	2	1	Boston.....	3	2	
Connecticut:				Braintree.....		1	
New Britain.....	3			Cambridge.....		1	
Stonington.....	6			Everett.....		1	1
District of Columbia:				Fall River.....			1
Washington.....	1		1	Haverhill.....	13		1
Florida:				Leominster.....		1	
Tampa.....			1	Lynn.....			
Georgia:				North Adams.....	2		
Albany.....		1		Somerville.....	1		
Atlanta.....		3	3	Waltham.....	1		
Augusta.....		9		Winthrop.....		1	
Brunswick.....	4			Michigan:			
Rome.....		2		Detroit.....		3	4
Savannah.....			2	Kalamazoo.....		1	1
Illinois:				Marquette.....		1	
Chicago.....	62	30	6	Muskegon.....	1		
Decatur.....		1		Minnesota:			
Evanston.....				Faribault.....			1
Galesburg.....	1			Minneapolis.....			7
Oak Park.....	1			St. Paul.....			1

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Apr. 22, 1922.	City.	Cases.		Deaths, week ended Apr. 23, 1922.
	Week ended Apr. 23, 1921.	Week ended Apr. 22, 1922.			Week ended Apr. 23, 1921.	Week ended Apr. 23, 1922.	
Missouri:				Ohio—Continued.			
Kansas City.....	6	3	3	Toledo.....			1
Montana:				Youngstown.....			2
Great Falls.....			1	Pennsylvania:			
New Jersey:				Philadelphia.....	3	8	7
Belleville.....	3			Rhode Island:			
Harrison.....		5		Providence.....			1
Kearny.....	2	1		Tennessee:			
Newark.....	8			Nashville.....			1
New York:				Texas:			
Albany.....	3	2		Austin.....			2
Binghamton.....	1			Dallas.....	4	1	1
Buffalo.....	1	2		El Paso.....			3
Cohoes.....	3			Galveston.....			1
Glens Falls.....		1		Houston.....			3
Jamestown.....	1			Virginia:			
New York.....	59	25	8	Danville.....			1
Rochester.....			1	Richmond.....			1
Saratoga.....		1		Roanoke.....	3		
Ohio:				Washington:			
Akron.....		1		Seattle.....	4		
Cincinnati.....			4	Spokane.....	4		
Cleveland.....	2			West Virginia:			
Columbus.....		1	1	Charleston.....		1	
Findlay.....		1		Huntington.....			1
Mansfield.....		1		Wisconsin:			
				Milwaukee.....		3	

LEPROSY.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			Louisiana:		
Sacramento.....	1		New Orleans.....	1	

LETHARGIC ENCEPHALITIS.

Illinois:			New Hampshire:		
La Salle.....		1	Portsmouth.....	1	1
Massachusetts:			Wisconsin:		
Chelsea.....	1		Milwaukee.....	2	
Waltham.....	1				

MALARIA.

Alabama:			Kansas:		
Montgomery.....	1		Kansas City.....	1	
Tuscaloosa.....	2		Kentucky:		
Arkansas:			Owensboro.....	1	
Little Rock.....	1		New York:		
North Little Rock.....	1		New York.....	1	
Florida:			Tennessee:		
Tampa.....	3		Memphis.....	2	
Georgia:					
Brunswick.....	1				
Valdosta.....	1				

MEASLES.

See p. 1161; also Telegraphic weekly reports from States, p. 1149.

CITY REPORTS FOR WEEK ENDED APR. 22, 1922.—Continued.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Louisiana:		
Birmingham.....		2	New Orleans.....	1	1
California:			North Carolina:		
San Bernardino.....		1	Charlotte.....		1
Georgia:			South Carolina:		
Augusta.....		1	Charleston.....		1
Savannah.....		3	Texas:		
			Fort Worth.....	1	1

PNEUMONIA (ALL FORMS).

Alabama:			Indiana:		
Birmingham.....		4	Anderson.....		1
Montgomery.....		3	East Chicago.....		1
Arkansas:			Fort Wayne.....		2
Fort Smith.....		1	Hammond.....		1
Little Rock.....	1		Indianapolis.....		14
California:			Logansport.....		1
Alameda.....		1	Mishawaka.....		1
Bakersfield.....		1	South Bend.....		1
Long Beach.....		1	Terre Haute.....		2
Los Angeles.....	45	14	Iowa:		
Oakland.....	6	1	Burlington.....	2	
Pasadena.....	2	1	Council Bluffs.....		2
Riverside.....		2	Muscatine.....		1
Sacramento.....		4	Kansas:		
San Bernardino.....		2	Hutchinson.....	4	1
San Diego.....		1	Kansas City.....	4	
San Francisco.....	12	6	Lawrence.....		1
Santa Ana.....	1		Parsons.....		1
Santa Barbara.....		1	Topeka.....	8	4
Santa Cruz.....	2	1	Wichita.....	2	1
Stockton.....		4	Kentucky:		
Colorado:			Covington.....		3
Denver.....		1	Louisville.....	17	10
Connecticut:			Louisiana:		
Bridgeport.....	5		New Orleans.....	1	
Bristol.....	4		Maine:		
Fairfield.....		2	Bangor.....	1	
Greenwich.....	2		Portland.....		3
Hartford.....	2	1	Maryland:		
Manchester.....	2		Cumberland.....	1	
Meriden.....	1		Massachusetts:		
New London.....		1	Arlington.....	3	1
District of Columbia:			Beverly.....		1
Washington.....		12	Boston.....		20
Florida:			Brockton.....	6	
Tampa.....		1	Brookline.....	1	
Georgia:			Cambridge.....		3
Atlanta.....		6	Chelsea.....	3	1
Augusta.....		3	Chicopee.....		4
Rome.....	3		Clinton.....	2	
Savannah.....		1	Fall River.....		2
Illinois:			Gardner.....		1
Alton.....	2		Haverhill.....	5	1
Aurora.....		1	Holyoke.....		2
Bloomington.....		1	Lawrence.....	3	1
Chicago.....	270	82	Lowell.....		7
Chicago Heights.....		1	Lynn.....		2
Cicero.....		1	Malden.....		5
Danville.....	5	2	Medford.....		1
Decatur.....		2	Melrose.....		1
East St. Louis.....		3	Methuen.....		1
Evanston.....	3		New Bedford.....		7
Forest Park.....	1		Newburyport.....		1
Freeport.....		1	Newton.....		2
Galesburg.....	1		Quincy.....		1
Jacksonville.....		1	Salem.....	1	
Kewanee.....	6	1	Somerville.....	2	1
La Salle.....		1	Southbridge.....		1
Oak Park.....	4		Springfield.....	4	2
Peoria.....		3	Taunton.....		2
Rock Island.....	1		Wakefield.....	1	
Rockford.....		5	Waltham.....	4	2
Springfield.....		1	Winthrop.....	2	

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Massachusetts—Continued.			New York—Continued.		
Woburn.....		1	Saratoga Springs.....	2	
Worcester.....		2	Schenectady.....	5	1
Michigan:			Syracuse.....	5	2
Ann Arbor.....	4	2	Troy.....	5	3
Detroit.....	71	32	Watertown.....	1	
Flint.....		3	Watervliet.....		2
Grand Rapids.....	4	1	Yonkers.....		1
Hamtramck.....		1	North Carolina:		
Highland Park.....	4		Charlotte.....		1
Ironwood.....		2	Raleigh.....		5
Jackson.....	3		Salisbury.....		1
Kalamazoo.....	2	1	Wilmington.....		1
Marquette.....	1		Winston-Salem.....		1
Muskegon.....	2		Ohio:		
Pontiac.....		1	Akron.....	10	
Sault Ste. Marie.....	1		Alliance.....	2	
Minnesota:			Ashtabula.....		
Duluth.....	4	1	Canton.....		2
Hibbing.....		3	Cincinnati.....		15
Minneapolis.....		2	Cleveland.....	2	
St. Paul.....		2	Columbus.....		4
Missouri:			Dayton.....	1	
Independence.....		2	East Cleveland.....	1	
Jefferson City.....		1	East Youngstown.....		1
Kansas City.....	17	10	Findlay.....	2	
Montana:			Hamilton.....	2	1
Anaconda.....		1	Ironton.....	1	
Billings.....	1		Mansfield.....	2	
Missoula.....		1	Middletown.....	2	1
Nebraska:			Newark.....		1
Omaha.....		7	Norwood.....		1
Nevada:			Piqua.....		2
Reno.....	1		Steubenville.....	1	
New Hampshire:			Toledo.....		3
Concord.....		2	Youngstown.....		5
New Jersey:			Zanesville.....		1
Atlantic City.....	2		Oklahoma:		
Clifton.....		2	Oklahoma.....		1
East Orange.....	2	1	Oregon:		
Elizabeth.....		2	Portland.....		3
Englewood.....	5	1	Pennsylvania:		
Garfield.....	1		Philadelphia.....	76	51
Harrison.....	1		Rhode Island:		
Hoboken.....		2	Pawtucket.....		5
Jersey City.....	2		Providence.....		5
Montclair.....	1		Tennessee:		
Orange.....	3		Memphis.....		4
Passaic.....	1		Nashville.....		2
Paterson.....	7		Texas:		
Perth Amboy.....		2	Austin.....		2
Phillipsburg.....		1	Dallas.....		7
Plainfield.....	1		El Paso.....		8
Rahway.....	1	1	Fort Worth.....		3
Summit.....		1	Galveston.....		2
Trenton.....		2	Houston.....		1
West New York.....		1	Waco.....		1
New York:			Utah:		
Albany.....	15		Salt Lake City.....		1
Buffalo.....	26	14	Vermont:		
Cortland.....		1	Burlington.....		2
Elmira.....	10	1	Virginia:		
Geneva.....		1	Norfolk.....		1
Glens Falls.....	1		Petersburg.....		1
Hudson.....	2		Portsmouth.....		2
Ithaca.....	1		Richmond.....		4
Jamestown.....	3	2	West Virginia:		
Lackawanna.....	4	1	Bluefield.....		2
Middletown.....	3		Charleston.....		2
Mount Vernon.....	5		Huntington.....		2
Newburgh.....	1		Wheeling.....		1
New York.....	372	200	Wisconsin:		
Niagara Falls.....	2	1	Janesville.....		4
Ogdensburg.....		1	Kenosha.....		4
Olean.....	1		Milwaukee.....	15	
Peekskill.....	1		Racine.....		1
Port Chester.....	2	1	Sheboygan.....	2	
Poughkeepsie.....	3	2	Wyoming:		
Rochester.....	17	8	Cheyenne.....	2	1
Rome.....	2	1			

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Apr. 22, 1922.		City.	Median for previous years.	Week ended Apr. 22, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Illinois:				Minnesota:			
Chicago.....	0	1		St. Paul.....	0		1
Massachusetts:				New York:			
Boston.....	0	1	1	New York.....	1	1	
Michigan:				Poughkeepsie.....	0		1
Detroit.....	0	1		Troy.....	0	1	
Highland Park.....	0	1		Pennsylvania:			
				Pittsburgh.....	0	1	

RABIES IN ANIMALS.

City.	Cases.	City.	Cases.
California:		Missouri:	
Pasadena.....	2	Kansas City.....	1
Riverside.....	1	Virginia:	
Georgia:		Alexandria.....	1
Savannah.....	2		

RABIES IN MAN.

City.	Cases.	Deaths.
California:		
Los Angeles.....	1	

SCARLET FEVER.

See p. 1161; also Telegraphic weekly reports from States, p. 1149.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Apr. 22, 1922.		City.	Median for previous years.	Week ended Apr. 22, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				District of Columbia:			
Mobile.....	2	2		Washington.....	1	3	
California:				Georgia:			
Bakersfield.....	1	2		Albany.....		1	
Long Beach.....	2	1		Atlanta.....	7	3	
Los Angeles.....	2	1		Augusta.....	0	9	
San Francisco.....	5	1		Savannah.....	0	2	
Stockton.....	0	2		Illinois:			
Colorado:				Centralia.....	0	1	
Denver.....	22	9	3	Chicago.....	2	3	
Connecticut:				Peoria.....	6	15	
Bridgeport.....	0	2	1	Indiana:			
Fairfield.....		2		Indianapolis.....	12	2	
Milford.....		3		La Fayette.....	0	1	

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

SMALLPOX—Continued.

City.	Median for pre- vious years.	Week ended Apr. 22, 1922.		City.	Median for pre- vious years.	Week ended Apr. 22, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Iowa:				Ohio—Continued.			
Burlington.....	1	2	.....	Chillicothe.....	0	3	.....
Council Bluffs.....	1	1	.....	Cincinnati.....	2	1	.....
Des Moines.....	7	1	.....	Dayton.....	0	1	.....
Muscatine.....	0	6	.....	Marion.....	1	1	.....
Sioux City.....	5	1	.....	Springfield.....	0	9	.....
Kansas:				Oklahoma:			
Coffeyville.....	0	2	.....	Oklahoma.....	5	7	.....
Kansas City.....	3	2	.....	Oregon:			
Topeka.....	5	2	.....	Portland.....	2	13	.....
Wichita.....	11	5	.....	Pennsylvania:			
Michigan:				Homestead.....		1	.....
Alpena.....	0	1	.....	South Dakota:			
Detroit.....	18	2	.....	Sioux Falls.....	0	2	.....
Grand Rapids.....	1	4	.....	Tennessee:			
Muskegon.....	0	1	.....	Nashville.....	0	1	.....
Port Huron.....	0	1	.....	Texas:			
Minnesota:				Dallas.....	4	1	.....
Faribault.....		4	.....	El Paso.....	1	2	1
Hibbing.....	0	2	.....	Fort Worth.....	5	3	.....
Mankato.....	0	1	.....	Utah:			
Minneapolis.....	21	6	.....	Salt Lake City.....	6	4	.....
St. Paul.....	8	19	.....	Virginia:			
Missouri:				Roanoke.....	1	1	.....
Kansas City.....	8	4	.....	Washington:			
Montana:				Bellingham.....	0	4	.....
Great Falls.....	3	5	.....	Everett.....	0	1	.....
Missoula.....	1	1	.....	Seattle.....	10	4	.....
Nebraska:				Spokane.....	11	4	.....
Lincoln.....	4	2	.....	Yakima.....	2	2	.....
Omaha.....	15	1	.....	West Virginia:			
North Carolina:				Bluefield.....	0	1	.....
Charlotte.....	0	1	.....	Wisconsin:			
Durham.....	1	2	.....	Janesville.....	0	3	.....
North Dakota:				Milwaukee.....	5	2	.....
Fargo.....	0	2	.....	Superior.....	1	5	.....
Ohio:				Waukesha.....		1	.....
Alliance.....	0	3	.....	Wausau.....	0	2	.....
Canton.....	2	3	.....			

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			New York:		
San Bernardino.....		2	New York.....	1	1
Indiana:			Pennsylvania:		
Terre Haute.....		1	Philadelphia.....	1	.....
Louisiana:			Virginia:		
New Orleans.....	1	.....	Petersburg.....	1	1

TUBERCULOSIS.

See p. 1161; also Telegraphic weekly reports from States, p. 1149.

CITY REPORTS FOR WEEK ENDED APR. 22, 1922--Continued.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for pre- vious years.	Week ended Apr. 22, 1922.		City.	Median for pre- vious years.	Week ended Apr. 22, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Minnesota:			
Birmingham.....	2	1	.....	Minneapolis.....	2	1	.....
California:				Missouri:			
Oakland.....	0	.....	1	St. Louis.....	3	1	1
Stockton.....	0	1	.....	New York:			
Colorado:				Albany.....	2	1	.....
Denver.....	0	1	.....	Lockport.....	0	.....	1
Pueblo.....	0	1	1	New York.....	12	9	.....
Connecticut:				Saratoga Springs.....	0	1	.....
Danbury.....	2	1	.....	Ohio:			
District of Columbia:				Cincinnati.....	1	2	.....
Washington.....	3	1	.....	Dayton.....	0	1	.....
Georgia:				Ironton.....	0	1	.....
Albany.....	.....	3	.....	Toledo.....	1	1	.....
Brunswick.....	0	1	.....	Oregon:			
Macon.....	0	1	.....	Portland.....	0	3	.....
Illinois:				Pennsylvania:			
Chicago.....	4	3	.....	Philadelphia.....	7	9	.....
Indiana:				Pittsburgh.....	2	2	.....
Hammond.....	0	1	.....	Uniontown.....	0	1	.....
Iowa:				South Carolina:			
Waterloo.....	0	1	.....	Charleston.....	1	1	.....
Kansas:				Columbia.....	0	1	.....
Atchison.....	0	1	.....	Tennessee:			
Kansas City.....	0	1	.....	Knoxville.....	0	1	1
Wichita.....	0	1	1	Texas:			
Kentucky:				Houston.....	0	.....	2
Louisville.....	0	1	.....	Utah:			
Owensboro.....	.....	1	.....	Salt Lake City.....	0	1	.....
Louisiana:				Virginia:			
New Orleans.....	2	1	.....	Norfolk.....	0	.....	1
Massachusetts:				West Virginia:			
Boston.....	2	2	.....	Charleston.....	0	1	.....
Cambridge.....	0	1	.....	Wisconsin:			
Danvers.....	0	1	.....	Fond du Lac.....	0	3	.....
Springfield.....	0	1	.....	Green Bay.....	0	1	.....
Michigan:				Kenosha.....	0	.....	1
Detroit.....	4	2	1	Oshkosh.....	0	1	.....
Grand Rapids.....	0	1	.....			

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Birmingham.....	178,270	37	1		6				4	6
Mobile.....	60,151	17	1							1
Montgomery.....	43,464	17					1			
Arkansas:										
Fort Smith.....	28,811	9	1				1			1
Hot Springs.....	11,695	4								
Little Rock.....	64,997		2				1		4	
California:										
Alameda.....	28,806	8					2			
Bakersfield.....	18,638	7					1			
Eureka.....	12,923	4			3		1		1	1
Glendale.....	13,536	8								1
Long Beach.....	55,593	14	6	1			1			1
Los Angeles.....	576,673	191	27	1	6		14	1	102	25
Oakland.....	216,361	37	15	1	2		3		2	2
Pasadena.....	45,354	16					2		6	2
Richmond.....	16,843	2								
Riverside.....	19,341	12								4
Sacramento.....	65,857	22	3	1	1		1		6	3
San Bernardino.....	18,721	16								3
San Diego.....	74,683	39	4				9		10	9
San Francisco.....	598,410	145	17		4		8		35	11
Santa Ana.....	15,485	5	1						1	
Santa Barbara.....	19,441	5					1		2	
Santa Cruz.....	10,917	6								
Stockton.....	40,296	19	3				1			
Vallejo.....	21,107	2								1
Colorado:										
Denver.....	256,369	70	15		1		11			12
Pueblo.....	42,908						3			
Connecticut:										
Bridgeport.....	143,538	32	9	1	6		8	3	9	2
Bristol.....	20,620	1	1				3			
Danbury (city).....	18,943	6			1				1	
Derby.....	11,238	3								
Fairfield (town).....	11,475	3	1		2		1		3	
Greenwich (town).....	22,123	1	1		1		2		1	1
Hartford.....	138,636	41	10		60		4		1	4
Manchester (town).....	18,370	3			5					
Meriden (city).....	29,842				1				1	
Milford (town).....	10,193	1			1					
New London.....	25,688	7			17					1
Norwalk.....	27,700	6								
Norwich (city).....	22,304	5			8		1			
District of Columbia:										
Washington.....	437,571	140	11		21		7		28	18
Florida:										
Tampa.....	51,252	20	5		1				2	3
Georgia:										
Atlanta.....	200,616	59							3	6
Augusta.....	52,548				1					2
Brunswick.....	14,413	3								
Macon.....	52,995		1		2					
Savannah.....	83,252	37	2				1		4	3
Valdosta.....	10,783	3								
Idaho:										
Boise.....	21,393	6					2			
Pocatello.....	15,001	3								
Illinois:										
Alton.....	24,682	4	2							
Aurora.....	36,397	13			14				1	1
Bloomington.....	28,725	8					1		7	
Blue Island.....	11,424	7			4				1	1
Centralla.....	12,491	7	1							
Champaign.....	15,873				1					
Chicago.....	2,701,705	692	100	10	338	4	81	4	178	42
Chicago Heights.....	19,653	6								
Cicero.....	44,905	10	2				1			1
Danville.....	33,750	8	1		1		1		3	1
Decatur.....	43,818	12	1		1					
East St. Louis.....	66,740	11	3		1					
Elgin.....	27,454	5					3			1
Evanston.....	57,215	11			10				1	

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Illinois—Continued.											
Freeport.....	19,669	3	1				4				
Galesburg.....	23,834	5	1						1		
Jacksonville.....	15,713	11	1				12				
Kewanee.....	16,626	7			1		1				
La Salle.....	13,050	7							1		
Mattoon.....	13,552	5									
Oak Park.....	39,830	14			20		1				
Peoria.....	76,121	25	1		1		2				
Rockford.....	65,651	17			5		4				
Rock Island.....	35,177	6		1					2		
Springfield.....	59,183	16	2				2				
Indiana:											
Anderson.....	29,767	3			1		1				
Bloomington.....	11,595	3									
Clinton.....	10,962	7									
Crawfordsville.....	10,139	2			3		7				
East Chicago.....	35,967	5	2						1		
Fort Wayne.....	36,549	21	3		2		3				
Frankfort.....	11,385	1			1						
Gary.....	55,378	10	1		2						
Hammond.....	36,004	9	2								
Huntington.....	14,000	3									
Indianapolis.....	314,194	96	4		49		7		1		
La Fayette.....	22,486	4					1				
Logansport.....	21,626	3	1								
Mishawaka.....	15,195	5					4		3		
Muncie.....	36,624	4	1								
South Bend.....	70,983	13							6		
Terre Haute.....	66,083	19	3		1		2				
Iowa:											
Burlington.....	24,057	4					1		2		
Clinton.....	24,151		9				2				
Council Bluffs.....	36,162	19	2		3		1				
Davenport.....	66,727	1	1								
Des Moines.....	126,468	2			1		5				
Dubuque.....	39,141						1				
Iowa City.....	11,207						1				
Marshalltown.....	15,731						2				
Mason City.....	20,065	5	2				1				
Muscatine.....	16,098	7					2				
Sioux City.....	71,227	7	7				2				
Waterloo.....	36,230				1		4				
Kansas:											
Coffeyville.....	13,452	8	1								
Fort Scott.....	10,693	3	2				1				
Hutchinson.....	23,293	1	1								
Kansas City.....	101,177		1		1		1		6		
Lawrence.....	12,456	3									
Parsons.....	16,028	4									
Salina.....	15,985	4					1				
Topeka.....	50,622	10	2						3		
Wichita.....	72,128	26		1			3		1	4	
Kentucky:											
Covington.....	57,121	13			9					1	
Louisville.....	234,891	61	7		8	1	1		21	7	
Owensboro.....	17,424		1								
Paducah.....	24,735				1		2				
Louisiana:											
New Orleans.....	387,219	121	10				6		17	13	
Maine:											
Auburn.....	16,985	4					3			1	
Bangor.....	25,978						1		1		
Bath.....	14,731	4									
Biddeford.....	18,008	7									
Lewiston.....	31,791	11		1			3		3		
Portland.....	69,272	22	4				7			1	
Sanford.....	10,691	1									
Maryland:											
Cumberland.....	29,837	10		1			1				
Massachusetts:											
Adams.....	12,967	1									
Amesbury.....	10,036	2									
Arlington.....	18,665	7					1		1		

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Massachusetts—Continued.											
Attleboro.....	19,731	6									
Beverly.....	22,561	2	3		1		3		2		
Boston.....	748,060	223	57	2	256	2	42	1	79	20	
Braintree.....	10,580	3									
Brockton.....	66,133	15	4		26		19		1		
Brookline.....	37,748	9			37		3		13	3	
Cambridge.....	109,694	28	8		74		4		7	3	
Chelsea.....	43,184	12	2		7		2		3	1	
Chicopee.....	36,214	7	1		3				2		
Clinton.....	12,979	4			2						
Danvers.....	11,108								1		
Dedham.....	10,792	2	1				2				
Everett.....	40,120	9			15		5		3		
Fall River.....	120,485	38	5		2		3			6	
Gardner.....	16,971	5					1				
Greenfield.....	15,462	3			1				1		
Haverhill.....	53,884	15	7		1					2	
Holyoke.....	60,203	10			16		1		1		
Lawrence.....	94,270	17			22		2		1		
Leominster.....	19,744	1	1						1	1	
Lowell.....	112,479	30			2		2		3		
Lynn.....	99,148	25	4		6		3		3	3	
Malden.....	49,103	13	1	2	2		2		4		
Medford.....	30,038	7	4		7		1				
Melrose.....	18,204	4			1		3				
Methuen.....	15,180	6			17		3				
Natick.....	10,907						2				
New Bedford.....	121,217	42	8	1			2		2	2	
Newburyport.....	15,618	4			13						
Newton.....	46,054	14	1		15		5				
North Adams.....	22,282	5								1	
Northampton.....	21,951	3	1	1	21		1		1		
Pittsfield.....	41,751	11							1	1	
Plymouth.....	13,045	3					1				
Quincy.....	47,876	5	3		21		4		2	1	
Salem.....	42,529	9	1	1	53		3	1			
Somerville.....	93,091	19			34		3		5		
Southbridge.....	14,245	1			1						
Springfield.....	129,563	35	2		30		7		1	1	
Taunton.....	37,137	18					1			1	
Wakefield.....	13,025	2			3		1				
Waltham.....	30,915	6			3		3				
Watertown.....	21,457	2	1		2						
West Springfield.....	13,443	0									
Westfield.....	18,601	5			15				2	1	
Winthrop.....	15,455	2					2				
Woburn.....	16,574	5									
Worcester.....	179,754	43	5	1			5		3	1	
Michigan:											
Ann Arbor.....	19,516	12		1					1	1	
Battle Creek.....	36,164		1		41		4				
Benton Harbor.....	12,233	2									
Detroit.....	993,739	213	48	3	382	10	36	1	30	21	
Flint.....	91,590	22	3		4		5				
Grand Rapids.....	137,634	33	4		2		3		6	1	
Hamtramck.....	48,615	1	5		7		2				
Highland Park.....	46,499	13			107		2			1	
Holland.....	12,166	2								2	
Ironwood.....	15,739	7									
Ishpeming.....	10,500	0									
Jackson.....	48,374	15	5		1		1	1	1	1	
Kalamazoo.....	48,858	16	2				3		2		
Marquette.....	12,718	1									
Muskegon.....	36,570	6			1					3	
Pontiac.....	34,273	12			50		1				
Port Huron.....	25,944	6	1		5		1			1	
Sault Ste. Marie.....	12,066	1					1		2		
Minnesota:											
Duluth.....	98,917	16	4						1	4	
Faribault.....	11,089	2									
Hibbing.....	15,089	6	2				1				
Mankato.....	12,469						3				
Minneapolis.....	350,582	79	14		46	1	49		28	5	

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Minnesota—Continued.										
Rochester.....	13,722	9	1						1	1
St. Cloud.....	15,873	1	1						2	
St. Paul.....	234,595	64	6	1	40		19	2	10	4
Winona.....	19,143						1			
Missouri:										
Cape Girardeau.....	10,252		1				2			
Independence.....	11,686	10								1
Jefferson City.....	14,490	2								
Joplin.....	29,855		1							
Kansas City.....	324,410	110	2	3	2		3		5	6
Saint Joseph.....	77,939	17	2				3			
Saint Louis.....	772,897	199	31	2	7		18		24	9
Montana:										
Anaconda.....	11,668	3								
Billings.....	15,100	2					1			
Great Falls.....	24,121	9	7						1	
Missoula.....	12,668	6	1						1	
Nebraska:										
Lincoln.....	54,934	9			25					
Omaha.....	191,601	70	5		21		1			7
Nevada:										
Reno.....	12,016	2							1	
New Hampshire:										
Berlin.....	16,104	1							2	
Concord.....	22,167	10			1		1			
Dover.....	13,029	4			3					
Keene.....	11,210	3								
Portsmouth.....	13,569		1		1					
New Jersey:										
Asbury Park.....	12,400	2			1					
Atlantic City.....	40,682	18	3		3		6		2	1
Bayonne.....	76,754				38		2		3	
Belleville.....	15,660				21		1		3	
Bloomfield.....	22,019	2			24		3			
Clifton.....	26,470	7			4		4			
East Orange.....	50,710	12			56		4		1	1
Elizabeth.....	95,682		11	1	3		11		1	3
Englewood.....	11,627	2	2		4		1			
Garfield.....	19,381	2	1				3		2	
Hackensack.....	17,667	7	1		7		2			
Harrison.....	15,721		2		11				1	
Hoboken.....	68,166	19	4		22	1			2	
Jersey City.....	297,864		21		55		11		7	
Kearny.....	26,724	8	1		48		3		1	
Montclair.....	28,810	3			3				1	1
Morristown.....	12,548	9					1			
Orange.....	33,268	4			3		3		1	
Passaic.....	63,824	16	4		9				1	3
Paterson.....	135,866		4		74		6		4	
Port Amboy.....	41,707	6	3		2		2			
Phillipsburg.....	16,923	2								
Plainfield.....	27,700	10	1		3		9		3	2
Rahway.....	11,042	2	1		3					
Summit.....	10,174	1			4		1			
Trenton.....	119,289	48	4		50	1	6		5	3
Union.....	20,651				9		3		1	
West Hoboken.....	40,068	8	1		18		3			
West New York.....	29,926	6	1		16		1			1
West Orange.....	15,573	5	1		30		1			
New Mexico:										
Albuquerque.....	15,157	8	1				2			5
New York:										
Albany.....	113,344		2		2				3	
Auburn.....	36,192	13	2	1			2		2	
Buffalo.....	506,775	133	9	1	3		21		23	7
Cortland.....	13,294	9								1
Elmira.....	45,305	12			44		1		5	1
Geneva.....	14,648	5								
Glens Falls.....	16,638	6							1	
Hornell.....	15,025	2			13					
Hudson.....	11,745	1			2		1			
Ithaca.....	17,004	11	3				1			
Jamestown.....	38,917	13	2		12		3			

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New York—Continued.										
Lackawanna.....	17,918	3	1						1	
Lockport.....	21,308	7	3				1			
Middletown.....	18,420		1		1				1	
Mount Vernon.....	42,726	6	1		24		2		1	
Newburgh.....	30,366	10	1	1	2					2
New York.....	5,621,151	1,445	270	28	2,403	56	275	7	1,278	107
Niagara Falls.....	50,760	18	3		11		6			1
North Tonawanda.....	15,482	2	2				2			
Ogdensburg.....	14,609	4								
Olean.....	20,506	0	3						2	
Peekskill.....	15,868	6	3		2		6		1	
Port Chester.....	16,573	5					1			
Poughkeepsie.....	35,000	11			10		1		1	
Rochester.....	295,750	65	6		25	1			25	3
Rome.....	26,341	14	1				3			1
Saratoga Springs.....	13,181	2					1			
Schenectady.....	88,723	16							1	
Syracuse.....	171,717	43	16	2			10		1	
Troy.....	72,013	20	7				4		2	
Watertown.....	31,285	6						1		
Watervliet.....	16,073	6		1						
White Plains.....	21,031	4	1		17		1			
Yonkers.....	100,226	27	4	2	77	1	6			3
North Carolina:										
Charlotte.....	46,338	15					3		6	3
Durham.....	21,719	4							1	
Greensboro.....	19,861	2								
Raleigh.....	24,418	13								3
Rocky Mount.....	12,742	3								
Salisbury.....	13,884	5								1
Wilmington.....	33,372	10								2
Winston-Salem.....	48,395	8			2				4	
North Dakota:										
Fargo.....	21,961	0								
Ohio:										
Akron.....	208,435	23	5		92		2			
Alliance.....	21,603	7			3		2		1	1
Ashtabula.....	22,082	6	1				1			1
Barberton.....	18,811	3							13	1
Bucyrus.....	10,425	3								
Cambridge.....	13,104	4	1		5					
Canton.....	87,091	16	4		39	1	1			1
Chillicothe.....	15,831	3								
Cincinnati.....	401,247	142	7	2	174	2	4			14
Cleveland Heights.....	15,236				4		1		4	
Columbus.....	237,031	60	9	1	13		3			3
Dayton.....	152,559	40					3		5	
East Cleveland.....	27,292	3					1			1
East Youngstown.....	11,237	6	1		5					
Findlay.....	17,021	4	1							
Fremont.....	12,468	2								
Hamilton.....	39,675	12			8		1			2
Ironton.....	14,007	4								1
Kenmore.....	12,683				2					
Lima.....	41,306	10								
Lorain.....	37,295				1		4		1	
Mansfield.....	27,824	7							4	3
Marion.....	27,891		2						1	
Martins Ferry.....	11,634	3								
Middletown.....	23,594	4					1		3	1
Newark.....	26,718	5	4				2			
Niles.....	13,080	1					1		3	1
Norwood.....	24,966	7			15					
Piqua.....	15,044	5							1	
Salem.....	10,305	0	1		2					
Sandusky.....	22,897	2								
Springfield.....	60,840	11					3		1	2
Steubenville.....	28,508	4								
Toledo.....	243,109	44	9		65		3		1	4
Youngstown.....	132,358	30	4	2	15		1		13	1
Zanesville.....	20,569	13	3		1		6		4	3

¹ Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Oklahoma:										
Oklahoma City.....	91,258	17	1				1		1	
Tulsa.....	72,075		1		12		3			
Oregon:										
Portland.....	258,288	58	10		2		3		3	6
Pennsylvania:										
Allentown.....	73,502		3		1				3	
Altoona.....	60,331		2				1			
Ambridge.....	12,730				1					
Beaver Falls.....	12,802		3				1			
Berwick.....	12,181				28					
Bethlehem.....	50,358		4		2		1			
Braddock.....	20,879		1		3				1	
Bristol.....	10,273		1		8					
Carlisle.....	10,916				16					
Carnegie.....	11,516		1							
Carrick.....	10,504		1							
Chambersburg.....	13,171				1					
Dubois.....	13,681		2				2			
Duquesne.....	19,011				1					
Easton.....	33,813		1		13		1			
Erie.....	93,372		4				4		11	
Harrisburg.....	75,917		3		1					
Hazleton.....	32,277		2		9					
Homestead.....	20,452		3							
Johnstown.....	67,327				9		1			
Lancaster.....	53,150		4				3		3	
Lebanon.....	24,643						3		1	
McKeesport.....	45,975		1		2				1	
McKee's Rocks.....	16,713		1				1			
Mahanoy City.....	15,599				1		1			
Mount Carmel.....	17,469		2		1		1			
Nanticoke.....	22,614		1		2					
New Castle.....	44,938		1		25					
New Kensington.....	11,987				5					
Norristown.....	32,319						2			
North Braddock.....	14,928				1					
Philadelphia.....	1,823,158	444	48	3	78	1	131	2	74	38
Pittsburgh.....	588,193		17		87		28		11	
Pittston.....	18,497		2		3					
Plymouth.....	16,500				10					
Pottstown.....	17,431				1					
Pottsville.....	21,876		1		3				1	
Reading.....	107,784		9		6				3	
Scranton.....	137,783		8		15		2		6	
Shamokin.....	21,204				10					
Sharon.....	21,747				9		1			
Shenandoah.....	24,726		1		27				1	
Steelton.....	13,428						6			
Sunbury.....	15,721				26					
Swissvale.....	10,908		1		2		1			
Tamaqua.....	12,363		1		4		2			
Uniontown.....	15,692				2		1			
Warren.....	14,256		1							
Washington.....	21,480				1					
Wilkes-Barre.....	73,833		1		16		2			
Wilkesburg.....	24,403				1		1			
Williamsport.....	36,198		1		8		4			
York.....	47,512						3		1	
Rhode Island:										
Cranston.....	29,407	5								
Pawtucket.....	64,248	17	1							1
Providence.....	237,595	50	3		5					3
South Carolina:										
Charleston.....	67,957	21					4			2
Columbia.....	37,524						1			
Greenville.....	23,127	3								1
South Dakota:										
Sioux Falls.....	25,176	6					1			
Tennessee:										
Chattanooga.....	57,895		1				1			
Knoxville.....	77,818				7				3	3
Memphis.....	162,351	57	3				1		15	4
Nashville.....	118,342	33							4	3

CITY REPORTS FOR WEEK ENDED APR. 22, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Texas:										
Austin.....	34,876	23								7
Beaumont.....	40,422	9			1					
Corpus Christi.....	10,522	4								
Dallas.....	138,976	42	6		79		1		7	4
El Paso.....	77,543	49	2				4			6
Fort Worth.....	106,482	23	2						3	2
Galveston.....	44,255	10								4
Houston.....	138,076	45								5
Waco.....	38,500	15	1							1
Utah:										
Salt Lake City.....	118,110	15	6	1	1		1			
Vermont:										
Barre.....	10,008		1							
Burlington.....	22,779	9	1				1			
Virginia:										
Alexandria.....	18,060	4								
Danville.....	21,539	7			1		1			1
Lynchburg.....	29,956	7								
Norfolk.....	115,777				1		3		3	1
Petersburg.....	31,002	10							3	1
Portsmouth.....	54,387	7	2				1		10	9
Richmond.....	171,667	40	2		57		1		5	
Roanoke.....	50,842	17	4				1			
Washington:										
Everett.....	27,644				1		4			
Seattle.....	315,652				4		7		29	
Spokane.....	104,437		2				3			
Tacoma.....	96,965		2				2			
Yakima.....	18,539						1			
West Virginia:										
Bluefield.....	15,282	8								1
Charleston.....	39,608	12								
Clarksburg.....	27,569	4	1							1
Fairmont.....	17,851						2		1	
Huntington.....	50,177	20		1						
Martinsburg.....	12,515				11					
Moundsville.....	10,669	4	1		10		5			
Parkersburg.....	20,050	9	1							
Wheeling.....	54,322	19	1				1		4	1
Wisconsin:										
Beloit.....	21,284	2					7		1	1
Eau Claire.....	20,880						1			
Fond du Lac.....	23,427	8					1			
Janesville.....	18,293	4								
Kenosha.....	40,472	7	1		7				3	
La Crosse.....	30,363						2		1	
Madison.....	38,378				2				1	
Manitowoc.....	17,563								1	
Marinette.....	13,610				1					
Milwaukee.....	457,147		11				9		10	
Oshkosh.....	33,162	5	1		2		1			
Racine.....	58,593	9					5		2	2
Sheboygan.....	30,955		5							
Superior.....	39,624	7					3			
Waukesha.....	12,558						1			
Wyoming:										
Cheyenne.....	13,829	8							1	1

FOREIGN AND INSULAR.

SMALLPOX ON VESSEL.

Steamship "Empire State"—At Honolulu.

On April 7, 1922, a case of smallpox developed at Honolulu, Hawaii, in a Chinese woman who arrived at Honolulu, March 31, 1922, on the steamship *Empire State* from ports in China and Japan. The history of the case showed that the patient embarked at Hongkong, March 15, 1922, without having been vaccinated; arrived at Shanghai March 19, but stated that she did not go ashore; reached Kobe March 22; left Yokohama March 24, the trip being thus within the incubation period of smallpox. The patient was passed upon inspection on arrival, developed fever April 5, and was isolated April 8, 1922. The contacts were sent to quarantine. The case was of the confluent type.

AUSTRALIA.

Plague—Sydney.

During the week ended April 29, 1922, a case of plague was reported at Sydney, Australia.

BERMUDA.

Epidemic Measles.

Measles has been reported present in epidemic form in Bermuda from about January 7 to April 18, 1922. The disease was reported epidemic, October 21, 1921, and was present during the month of December, 1921.¹

CANADA.

Communicable Diseases—Ontario—March, 1922.

The following table shows the number of cases of communicable diseases occurring in the Province of Ontario, Canada, during the month of March, 1922, as compared with the number reported for the corresponding month of the year 1921. The number of deaths from these diseases is also shown. Population, estimated, 2,523,200.

Disease.	February, 1922.		February, 1921.	
	Cases.	Deaths.	Cases.	Deaths.
Cerebrospinal meningitis.....	8	7	.....	5
Diphtheria.....	320	32	447	47
Influenza (pneumonic).....	.....	84	.....	42
Measles.....	695	4	238	4
Pneumonia.....	.....	409	.....	315
Polio-myelitis.....	.....	.....	.....	6
Scarlet fever.....	446	18	436	16
Smallpox.....	113	.....	526	4
Tuberculosis.....	172	136	181	134
Typhoid fever.....	21	11	30	11
Whooping cough.....	61	13	237	19

¹ Public Health Reports, Dec. 9, 1921, p. 3054, and Dec. 23, 1921, p. 3165.

MEXICO.**Epidemic Smallpox—Monterey.¹**

Under date of April 28, 1922, epidemic smallpox was reported to be still seriously prevalent at Monterey, Mexico, with an estimated daily occurrence of about 16 deaths from the disease.

Plague-Infected Rodents—Vera Cruz.

The finding of two plague-infected rodents at Vera Cruz, Mexico, was reported April 20 and April 21, 1922, making a total of three infected rodents found from April 4 to 21, 1922.²

RUSSIA.**Communicable Diseases—Esthonia.**

Communicable diseases were reported in Esthonia, Russia, during the month of February, 1922, as follows:

Disease.	Cases.	Remarks.
Cerebrospinal meningitis.....	3	
Diphtheria.....	63	
Measles.....	383	
Paratyphoid fever.....	3	
Scarlet fever.....	51	
Smallpox.....	1	
Tuberculosis.....	126	
Typhoid fever.....	47	
Typhus fever.....	12	Recurrent typhus, 4 cases.

Population officially estimated, 1,300,000.

SWITZERLAND.**Influenza—Zurich.**

Influenza has been reported in Zurich as follows: November 13 to December 31, 1921.—Cases, 116; deaths, 3. January 1 to April 8, 1922.—Cases, 4,884; deaths, 61.

UNION OF SOUTH AFRICA.**Smallpox—Typhus Fever—January, 1922.**

During the month of January, 1922, smallpox and typhus fever were reported in the Union of South Africa as follows: *Smallpox*—37 cases with 3 deaths, occurring among the native population. *Typhus fever*—520 cases with 84 deaths occurring among the native population, and 12 cases with two deaths among the white population. (For distribution according to State, see Table, p. 1172.)

¹ Public Health Reports, Apr. 21, 1922, p. 972.

² Public Health Reports, Apr. 28, 1922, p. 1043.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During Week Ended May 12, 1922.¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Calcutta.....	Mar. 19-25.....	46	34	
Philippine Islands:				
Province—				
Bulacan.....	Feb. 19-25.....	1	1	

PLAGUE.

Australia:				
Sydney.....	Apr. 23-29.....	1		
Ceylon:				
Colombo.....	Mar. 5-18.....	4	4	
China:				
Hongkong.....	Apr. 16-22.....	77	56	Chinese.
Ecuador:				
Guayaquil.....	Mar. 16-31.....	6	2	Rats examined, 3,200; found infected, 100.
India:				Feb. 26-Mar. 11, 1922: Cases, 6,518; deaths, 5,230. Nov. 27-Dec. 3, 1921: Cases, 1,280; deaths, 1,055. Dec. 11-17, 1921: Cases, 1,259; deaths, 952.
Bombay.....	Feb. 26-Mar. 4.....	49	36	
Calcutta.....	Mar. 19-25.....	9	9	
Karachi.....	do.....	39	27	
Madras Presidency.....	do.....	193	132	Including island of Madoera: Feb. 1-28, 1922—deaths, 1,595.
Java:				
East Java—				
Socrabaya.....	Feb. 26-Mar. 4.....	1	1	
Mesopotamia:				
Bagdad.....	Feb. 1-28.....	2	1	
Mexico:				
Vera Cruz.....				2 plague-infected rodents found, Apr. 21 and 28, 1922.
Portuguese West Africa:				
Angola—				
Loanda.....	Jan. 29-Feb. 4.....		2	
Straits Settlements:				
Singapore.....	Mar. 12-18.....	3	3	

SMALLPOX.

Algeria:				
Algiers.....	Mar. 1-31.....	1		
Bolivia:				
La Paz.....	Feb. 1-28.....	17	12	
Brazil:				
Rio de Janeiro.....	Mar. 26-Apr. 1.....	16	8	
Canada:				
Manitoba—				
Winnipeg.....	Apr. 2-8.....	3		
Ontario.....				
Niagara Falls.....	Apr. 9-22.....	7		Mar. 1-31, 1922: Cases, 113.
Chile:				
Concepcion.....	Feb. 28-Mar. 13.....		21	
China:				
Antung.....	Mar. 19-26.....	1		
Hongkong.....	Mar. 12-18.....	3	3	
Mukden.....	Mar. 19-25.....			Present.
Shanghai.....	Mar. 20-Apr. 2.....		5	Chinese.
Tsingtau.....	Feb. 27-Mar. 19.....	4	3	
Cuba:				
Cienfuegos.....	Apr. 16-22.....	6		
Nuevitas.....	Apr. 10-16.....	3		Found at Senado, a point 25 miles distant from Nuevitas.
Dominican Republic:				
Santo Domingo.....	Apr. 2-15.....			In vicinity: Cases, 25; deaths, 8.
Ecuador:				
Guayaquil.....	Mar. 16-31.....	1		
Finland.....				Mar. 1-15, 1922: Cases, 13.
France:				
Bordeaux.....	Mar. 31-Apr. 6.....		1	
Great Britain:				
Nottingham.....	Mar. 19-25.....	7		
Haiti.....				Apr. 2-8, 1922: A few cases.

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended May 12, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Jan. 15-28, 1922: Deaths, 371.
Bombay.....	Feb. 26-Mar. 4....	4	1	
Calcutta.....	Mar. 12-18.....	95	61	
Karachi.....	Mar. 19-25.....	41	11	
Madras.....	do.....	146	61	
Japan:				
Kobe.....	Mar. 28-Apr. 3....	1	1	
Java:				
West Java—				
Batavia.....	Mar. 10-23.....	3		Batavia Province.
Mesopotamia:				
Bagdad.....	Feb. 1-28.....	6	4	
Mexico:				
Guadalajara.....	Feb. 26-Mar. 4....	4	1	
Mexico City.....	Mar. 19-25.....	22		
Monterey.....				Apr. 28, 1922: Epidemic; estimated about 16 deaths daily.
Saltillo.....	Apr. 2-8.....		1	Confluent. From Tampico.
Portugal:				
Lisbon.....	Jan. 20-Apr. 15....	127	8	One death in February and 7 in March.
Rumania:				
Chisinau.....	Feb. 1-28.....	17		District.
Russia:				
Esthonia.....	do.....	1		
Spain:				
Corunna.....	Apr. 2-8.....		1	In very young child.
Straits Settlements:				
Singapore.....	Mar. 5-18.....	54	7	
Switzerland:				
Zurich.....	Apr. 2-8.....	1		
Syria:				
Aleppo.....	do.....			Present.
Beirut.....	Mar. 13-27.....	4	2	
Tunis:				
Tunis.....	Apr. 2-8.....		1	
Turkey:				
Constantinople.....	Mar. 26-Apr. 8....	11	4	
Union of South Africa.....				Jan. 1-31, 1922: Cases, 37; deaths, 3; among natives.
Cape Province.....	Feb. 19-Mar. 11....			Outbreaks.
Natal.....	Feb. 19-25.....			Do.
Orange Free State.....	do.....			Do.
Southern Rhodesia.....	Mar. 2-15.....	83		
Transvaal.....	Feb. 19-25.....			Do.
On vessel:				
S. S. Empire State.....	Apr. 7.....	1		At Honolulu, Hawaii, Mar. 31. In Chinese woman, embarked at Hongkong; unvaccinated; arrived Shanghai Mar. 15; states did not go ashore; at Kobe Mar. 22; left Yokohama Mar. 24. Case was passed on inspection; developed Apr. 7, 1922.

TYPHUS FEVER.

Algeria:				
Algiers.....	Mar. 1-31.....	7	1	
Egypt:				
Port Said.....	Apr. 2-8.....	1		
Mesopotamia:				
Bagdad.....	Feb. 1-28.....	1		
Mexico:				
Mexico City.....	Mar. 19-25.....	21		Including municipalities in Federal district.
Palestine:				
Jerusalem.....	Apr. 4-10.....	1		
Portugal:				
Oporto.....	Apr. 2-8.....	3		
Rumania:				
Chisinau.....	Feb. 1-28.....	10		District.
Russia:				
Esthonia.....	do.....	12		Recurrent typhus, 4 cases.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended May 12, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Turkey:				
Constantinople.....	Mar. 26-Apr. 8....	24	1	
Union of South Africa.....				Jan. 1-31, 1922: Cases, 520; deaths, 84; occurring in native population; 12 cases with 2 deaths occurring in white population.
Cape Province.....	Feb. 12-18.....			Outbreaks. Jan. 1-30, 1922: Cases, 331; deaths, 49 (colored); cases, 9; deaths, 3 (among white population).
Natal.....				Jan. 1-30, 1922: Cases, 36; deaths, 10 (colored). Among white population, 3 cases.
Orange Free State.....	Feb. 12-Mar. 11.....			Outbreaks. Jan. 1-30, 1922: Cases, 133; deaths, 25.
Transvaal.....				Jan. 1-30, 1922: Cases, 20 (colored).
Yugoslavia:				
Croatia—				
Zagreb.....	Mar. 19-23.....	1		

Reports Received from Dec. 31, 1921, to May 5, 1922.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Oct. 2-Dec. 31, 1921: Deaths, 37,749. (Corrected report.)
Bombay.....	Oct. 30-Nov. 5.....	1		Jan. 1-28, 1922: Deaths, 2,828.
Do.....	Jan. 29-Feb. 4.....	1	1	
Calcutta.....	Oct. 23-Dec. 31.....	71	60	
Do.....	Jan. 1-Mar. 18.....	286	245	
Karachi.....	Nov. 6-12.....		1	
Madras.....	Dec. 11-31.....	4	1	
Do.....	Jan. 1-Feb. 4.....	10	7	
Rangoon.....	Oct. 1-Dec. 31.....	30	24	
Do.....	Jan. 1-Feb. 25.....	30	25	
Indo-China:				
Saigon.....	Nov. 6-12.....	1	1	
Do.....	Jan. 29-Feb. 18.....	24	23	Including 100 km. surrounding country.
Java:				
West Java—				
Batavia.....	Nov. 1-7.....	2	2	At Lebak.
Philippine Islands:				
Manila.....	Nov. 13-Dec. 31.....	49	18	
Do.....	Jan. 1-Mar. 11.....	82	27	
Province—				
Bulacan.....	Dec. 25-31.....	1		
Do.....	Feb. 12-18.....	1	1	
Cavite.....	Jan. 1-7.....	1	1	
Cebu.....	Jan. 8-14.....	1		
Pampanga.....	Dec. 25-31.....	1		
Rizal.....	Jan. 15-28.....	18	12	
Zambales.....	Dec. 11-31.....	31	18	
Do.....	Jan. 1-7.....	5	4	
Poland.....				Aug. 14-Sept. 10, 1921: Cases, 4; deaths, 1.
Russia:				
Kharkoff.....	Jan. 28.....			Present.
Kief.....	Dec. 15-Jan. 11.....	259		
Latvia—				
Riga.....				At quarantine station in October, 1921: One case.
Lithuania.....				Present. Feb. 19, 1922, with 39 cases and mortality of 33 per cent, Kovno and vicinity.
Odessa.....	Jan. 28.....			Present.
Siam:				
Bangkok.....	Oct. 23-Dec. 24.....	8	4	
Do.....	Jan. 29-Mar. 4.....	7	3	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Asia Minor:				
Smyrna.....	Nov. 27-Dec. 3....	1	1	
Australia:				
New South Wales—				
Sydney.....	.....do.....	2	1	Dec. 7-13: 4 plague rats. Jan. 15-21, 1922: 1 plague rat.
Do.....	Jan. 29-Apr. 22....	14	2	
Queensland—				
Aramac.....	Mar. 19-25.....	1	1	Inland town on railroad about 150 miles from coast.
Brisbane.....	Oct. 30-Dec. 31....	27	20	Total, Aug. 22-Dec. 31, 1921: Cases, 41; deaths, 27; Total infected rats, 54. Total cases, Jan. 1-Mar. 18, 1922: 10. Total infected rats, 10.
Do.....	Jan. 1-Mar. 18....	10		
Bundaberg.....	Mar. 5-11.....	1		
Cairns.....	Oct. 30-Dec. 31....	6	3	Plague rats, 9.
Do.....	Jan. 1-7.....		1	Pestis minor.
Cooktown.....	Oct. 30-Nov. 5....	1		
Ingham.....				Nov. 6-Dec. 24, 1921: Plaguerats, 14. Jan. 1-14, 1922: 2 plague rats.
				Nov. 27-Dec. 3, 1921: 1 plague rat.
Inisfail.....				
Ipswich.....	Dec. 11-17.....	1	1	
Port Douglas.....	Nov. 13-19.....	1	1	
Townsville.....	Nov. 20-Dec. 3....	2	2	Total cases, 27; deaths, 18.
Do.....	Jan. 1-14.....		2	To Jan. 14, 1922: Cases, 32; deaths, 21.
Azores:				
Islands—				
Fayal.....	Jan. 16-22.....	2	2	
St. Michael.....				Nov. 27-Dec. 31, 1921: Cases, 23; deaths, 9. Jan. 1-21, 1922: Cases, 13; deaths, 8. Jan. 22-Apr. 1, 1922: Cases, 62; deaths, 31; occurring at Arrifes, Capelas, Fenaes, Ribeira Grande, and Santo Antonio; distance from port of Ponta Delgada, 3 to 9 miles.
Arrifes.....	Dec. 25-31.....	1	1	3 miles from port
Do.....	Jan. 1-7.....	1		
Fenaes d'Ajuda.....	Nov. 27-Dec. 3....			Present. 6 miles from port.
Do.....	Jan. 15-21.....	3	2	
Ribeira Grande.....	Nov. 13-Dec. 10....	19	8	9 miles from port.
Do.....	Jan. 8-14.....	9	6	
Livramento.....	Dec. 4-10.....	2		Vicinity of Ponta Delgada.
Ponta Delgada.....	.....do.....	1		
Brazil:				
Bahia.....	Oct. 30-Dec. 31....	13	12	
Do.....	Jan. 1-Mar. 2....	14	11	
Para.....	Feb. 6-12.....		1	
Pernambuco.....	Feb. 26-Mar. 4....		1	
Porto Alegre.....	Feb. 12-18.....	3	2	
Rio de Janeiro.....	Jan. 22-28.....	1	1	
British East Africa:				
Uganda.....	Aug. 1-Dec. 31....	256	229	Aug. 1-Oct. 31, 1921: Reports of inspectors, deaths, 343; reports of chiefs, deaths, 651.
Cape Verde Islands:				
St. Vincent.....	Mar. 16.....			Present; no plague mortality reported during previous 5-month period. August, 1921: Cases, 6; deaths, 3.
Ceylon:				
Colombo.....	Oct. 30-Dec. 31....	13	10	Oct. 30-Dec. 24, 1921: Rodent plague, 6.
Do.....	Jan. 1-Mar. 4....	23	21	Infected rats, 11.
Chile:				
Antofagasta.....				Mar. 5-11, 1922: 1 plague rat.
China:				
Amoy.....	Feb. 18-Mar. 4....			Present in surrounding country.
Hongkong.....	Nov. 20-Dec. 17....	6		
Do.....	Jan. 1-Apr. 15....	138	73	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 31.....	18	6	Rats examined, 2,958; found infected, 90. Total, July-Dec. 15, 1921: Cases, 28. Jan. 1-Mar. 15, 1922: Rats examined, 14,800; found infected, 375.
Do.....	Jan. 1-Mar. 15.....	36	13	
Naranjito.....	Mar. 1-15.....	1	1	
Egypt:				
City—				Jan. 1-Dec. 31, 1921: Cases, 356; deaths, 153. Jan. 1-Mar. 30, 1922: Cases, 56; deaths, 26.
Alexandria.....	Dec. 5-30.....	7	2	
Do.....	Jan. 17-Mar. 16.....	8	6	Feb. 12-18, 1922: 1 plague rodent.
Port Said.....	Dec. 20.....	1	1	Mar. 12-16, 1922: One case, one death, septicemic.
Do.....	Mar. 15-21.....	2	2	
Suez.....	Nov. 22-Dec. 31.....	16	9	
Do.....	Jan. 2-Mar. 30.....	11	5	
Province—				
Assiout.....	Mar. 25.....	1	1	Septicemic.
Assouan.....	Feb. 28.....	1	1	Do.
Fayoum.....	Feb. 17-Mar. 9.....	5	1	
Gharbieh.....	Feb. 17-Mar. 27.....	5	1	
Girgeh.....	Jan. 12-Mar. 30.....	5	1	Do.
Keneh.....	Dec. 1.....	1	1	Do.
Do.....	Jan. 21-Feb. 28.....	5	3	Pneumonic, 1 case, 1 death; septicemic, 1 case.
Minieh.....	Feb. 21-Mar. 9.....	3	3	Septicemic.
France:				
Dunkirk.....	Mar. 24.....		1	In hospital, from S. S. City of Genoa from Bombay.
Great Britain:				
Liverpool.....				Mar. 31, 1922: Finding of 3 plague-infected rats reported; place, warehouse in which material from steamship Warwickshire was stored. ¹
Greece:				
Preveza.....	Feb. 8.....			Outbreak. Port on the Ionian Sea.
India:				
Bombay.....	Oct. 23-Dec. 24.....	7	6	Oct. 23-Dec. 31, 1921: Cases, 8,690; deaths, 6,458 (reports, weeks; ended Dec. 3 and 17, 1921, missing). Jan. 1-Feb. 25, 1922: Cases, 18,711; deaths, 14,543.
Do.....	Jan. 1-Feb. 25.....	68	48	
Calcutta.....	Jan. 29-Mar. 18.....	7	7	
Karachi.....	Nov. 6-Dec. 31.....	5	5	
Do.....	Jan. 1-Mar. 18.....	137	102	
Madras.....	Dec. 11-17.....	1	1	
Madras Presidency.....	Nov. 13-Dec. 31.....	2,047	1,438	
Do.....	Jan. 1-Mar. 18.....	3,703	2,659	
Rangoon.....	Oct. 1-Dec. 31.....	139	129	
Do.....	Jan. 1-Feb. 25.....	257	231	
Indo-China:				
Saigon.....				Nov. 6-Dec. 24, 1921: Rodent plague, 10. Jan. 8-Feb. 4, 1922: Rodent plague, 8.
Italy:				
Catania.....	Nov. 27.....	1	1	Total, Oct. 16-Nov. 27, 1921: Cases, 8 (of which 1 doubtful); deaths, 5. Jan.-Feb., 1922: 28 plague-infected rats found.
Naples (Province)—				17 miles from city of Naples.
Torre Annunziata.....	Oct. 22-Dec. 27.....	2	2	
Venice.....	Oct. 27.....	1	1	
Java:				
East Java—				Islands of Java and Madoera; Nov. 1-Dec. 31, 1921: Deaths, 1,781. Jan. 1-31, 1922: Deaths, 976.
Soerabaya.....	Oct. 30-Dec. 10.....	11	12	
Do.....	Jan. 1-Feb. 18.....	6	6	
Madagascar:				
Tananarive.....	Jan. 23-Feb. 19.....	26	15	Bubonic, pneumonic and septicemic.
Mauritius (Island):				
Port Louis.....	Oct. 29-Dec. 30.....	241	142	Jan. 23-Feb. 6, 1922: Cases, 12; deaths, 3.
Do.....	Dec. 31-Jan. 22.....	16	6	Plague-infected rats, 176; plague-infected cats, 36. (Corrected report.) Dec. 1-30, 1921: Dead rats found, 155; dead cats, 4. Dead rats found, Dec. 31, 1921-Jan. 11, 1922, 17.
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	1	1	

¹Public Health Reports, Mar. 31, 1922, p. 784.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Tampico.....	Mar. 26-Apr. 1....	1		Dec. 18-31, 1921: Infected rodents found, 5; total, Jan. 1-Dec. 31, 1921, infected rodents, 322; Jan. 1-Apr. 8, 1922, 14 plague-infected rodents.
Vera Cruz.....				One infected rodent caught Dec. 5, 1921. Apr. 4, 1922: 1 plague-infected rodent found.
Peru.....				Nov. 17-Dec. 31, 1921: Cases, 94; deaths, 35. Occurring in Callao, Huacho, Huaras, Lima, Magdalena Vieja, Paíta, Salaverry, and Sechura, Jan. 1-Feb. 23, 1922: Cases, 141; deaths, 62. (Corrected report to Feb. 15, 1922.)
Localities—				
Bambamarca.....	Jan. 1-15.....			Present. Rural.
Barranco.....	Jan. 16-31.....	1		
Callao.....	Jan. 1-Feb. 23.....	7	4	Rural. Year, 1921: Deaths, 30.
Casma.....	Feb. 1-24.....	11	3	
Chiclayo.....	Jan. 16-Feb. 23.....	19	16	
Chilca.....	Jan. 16-Feb. 15.....	11	2	
Cutervo.....	Jan. 1-15.....	1		Rural.
Guadalupe.....	Jan. 1-31.....	7	2	
Huacho.....	Jan. 1-Feb. 15.....	3		
Huacayoc.....	Jan. 16-31.....			Province. Present.
Huaral.....	Jan. 1-15.....	2		
Jayanca.....	do.....			Present.
Lambayeque.....	Jan. 16-Feb. 15.....	3	1	
Lima.....	Jan. 1-Feb. 23.....	14	4	In district, 20 cases, 6 deaths.
Mollendo.....	Feb. 1-23.....	3		
Pacasmayo.....	do.....	1		
Payta.....	Jan. 1-Feb. 23.....	28	21	
Piura.....	Feb. 1-15.....	1		
Salaverry.....	Jan. 16-31.....	1		
San Pedro.....	Jan. 1-15.....	1		
Sullana.....	Jan. 1-Feb. 23.....	3	3	
Trujillo.....	Feb. 1-15.....			Present.
Tumbes.....	do.....	4		
Portugal:				
Lisbon.....	Dec. 15.....	1	1	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Nov. 5.....		2	
Mossamedes.....	Feb. 14.....			Present. In vicinity Mar. 1-22, 1922: Cases, 11. No cases reported in city since Feb. 23, 1922.
Rhodes (Island) (Aegean Sea).....	Oct. 13.....	3	1	
Senegal:				
Dakar.....	Feb. 1-23.....	2		Jan. 1-31, 1922: 1 rodent plague.
Siam:				
Bangkok.....	Oct. 23-Dec. 31.....	7	6	
Do.....	Jan. 8-Mar. 4.....	35	26	
Straits Settlements:				
Singapore.....	Nov. 6-Dec. 31.....	3	3	
Do.....	Jan. 15-Mar. 4.....	34	15	
Syria:				
Beirut.....	Oct. 9-Nov. 20.....	10	4	
Turkey:				
Constantinople.....	Jan. 1-7.....	1		Mar. 26-Apr. 1, 1922: One death.
Union of South Africa:				
Orange Free State—				
Boschrand Farm.....	Jan. 25.....	3	3	10 miles from Kroonstad.
Bothaville.....	Nov. 19.....			Plague-infected mouse found.
Gelukfontein Farm.....	Feb. 25.....			Plague mortality among rodents.
Hoopstad.....	Dec. 4-10.....	1		In native herd boy.
Klipfontein Farm.....	Feb. 10.....	1	1	12 miles from Bothaville. Plague infection found in rats on adjoining farm, week ended Feb. 4, 1922.
Rientfontein Farm.....	Feb. 17.....			Plague-infected squirrel found.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
On vessel:				
S. S. City of Genoa.....	Mar. 9-15.....	4	2	At Suez and Port Said, Egypt, from Karachi and Bombay, India, for Plymouth, England. One fatal case at sea en route to Suez; 1 case on arrival. At Port Said, 2 cases, of which 1 fatal. At Dunkirk, France, Mar. 24, 1922: Several cases, one fatal case in hospital at Dunkirk.
S. S. Polycarp.....	Feb. 3.....	1		At Para, Brazil, from Ceara, via Manaus, Maranham, and Para; for New York.
S. S. Tango Maru.....	Dec. 31.....	1		At Thursday Island Quarantine, Australia, from Kobe, via Nagasaki, Hongkong, Manila, and Zamboanga.
S. S. Warwickshire.....	Feb. 12.....			At Liverpool, England, from Rangoon. Plague rats, 27; 1 plague mouse.

SMALLPOX.

Algeria:				
Algiers.....	Jan. 1-Mar. 31.....	4		
Arabia:				
Aden.....	Dec. 25-31.....		1	
Do.....	Jan. 8-14.....		1	
Asia Minor:				
Smyrna.....	Jan. 15-21.....	1		In district.
Bolivia:				
La Paz.....	Aug. 1-Dec. 31.....	60	41	
Do.....	Jan. 1-31.....	15	9	
Brazil:				
Bahia.....	Nov. 6-Dec. 17.....	4		
Do.....	Jan. 8-Feb. 4.....	2		
Rio de Janeiro.....	Nov. 13-Dec. 31.....	13	2	
Do.....	Jan. 1-Mar. 11.....	34	8	
Santos.....	Feb. 20-26.....		1	
Sao Paulo.....	Oct. 31-Dec. 25.....	11		
Do.....	Dec. 26-Jan. 8.....	2		
British Africa:				
Uganda.....	Aug. 1-Dec. 31.....	33	6	
Canada:				
British Columbia—				
Vancouver.....	Dec. 25-31.....	3		
Do.....	Jan. 23-Feb. 4.....	1		
Victoria.....	Mar. 12-18.....	1		
Manitoba.....				Year 1921: Cases, 71.
Winnipeg.....	Nov. 20-Dec. 3.....	2		
New Brunswick—				
Charlotte County.....				Dec. 17, 1921: 31 cases previously reported, occurring at Andersonville and Blacks Harbor.
St. Stephen.....	Dec. 11-17.....	2		Dec. 18-24, 1921: Cases, 3. Dec. 25-31, 1921: Cases, 2. Feb. 19-20, 1922: Cases, 2.
Restigouche County.....				Dec. 11-31, 1921: Cases, 3. Feb. 12-25, 1922: Cases, 4.
Charlo.....	Feb. 19-25.....	2		20 miles from Campbellton.
Westmoreland County.....	Mar. 5-Apr. 1.....	16		
York County.....	Dec. 11-17.....	1		
Do.....	Jan. 29-Feb. 4.....	1		
Ontario:				
Fort William and Port Arthur.....	Jan. 1-21.....	3		Dec. 1-31, 1921: Cases, 128. Jan. 1-31, 1922: Cases, 170; Feb. 1-Mar. 31, 1922: Cases, 298.
Hamilton.....	Jan. 22-Mar. 25.....	4		
Kingston.....	Jan. 17-Feb. 11.....	5		
Niagara Falls.....	Dec. 11-24.....	2		
Do.....	Jan. 15-Apr. 8.....	40		Jan. 16-20, 1922: Two cases reported.
North Bay.....	Feb. 12-18.....	1		
Ottawa.....	Dec. 11-24.....	17		
Do.....	Jan. 1-Apr. 15.....	34		
Sault Ste. Marie.....	Jan. 15-21.....	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Ontario—Continued.				
Toronto.....	Dec. 11-24.....	4		
Do.....	Jan. 1-Apr. 8.....	54		
Windsor.....	Jan. 8-Mar. 4.....	3		
Quebec—				
Montreal.....	Dec. 11-24.....	1		
Saskatchewan—				
Regina.....	Jan. 1-Feb. 11.....	4		
Saskatoon.....	Dec. 1-18.....	6		
Do.....	Feb. 5-18.....	3		
Canal Zone:				
Ancon.....				Admitted to hospital by transfer from Panama, Nov. 30, 1921, 1 case. Arrived on sailing vessel from a village on south coast.
Ceylon:				
Colombo.....	Nov. 27-Dec. 3.....	1		Port case.
Do.....	Jan. 29-Mar. 4.....	5		One port case.
Chile.....				Jan.-Sept., 1921: Cases, 5,500 (approximately); deaths, 2,500 (approximately). Nov. 15-21, 1921: Diffused in southern provinces; not epidemic.
Concepcion.....	Nov. 23-Dec. 26.....		25	Nov. 15-21, 1921: Present. In vicinity, at Hualqui, cases, 32; deaths, 5. Dec. 4-17, 1921: Present.
Do.....	Dec. 27-Jan. 30.....		21	Present.
Coronel.....	Nov. 15-Dec. 17.....			
Curanilahue.....	Nov. 15-21.....	4		
Lota.....				Oct. 28, 1921-Jan. 31, 1922: Cases, 879; deaths, 338.
Ollague.....	Mar. 12-25.....	1		Reported Mar. 16.
Osorno.....				From beginning of outbreak to Feb. 15, 1922: Cases, 87.
Talcahuano.....	Nov. 15-Dec. 24.....	6		Jan. 8-23, 1922: Present.
Do.....	Jan. 29-Feb. 18.....	5		
Temuco.....	Nov. 15-21.....	9		From beginning of outbreak to Feb. 15, 1922: Cases, 122.
Valparaiso.....	Oct. 23-Dec. 31.....		94	
Do.....	Jan. 1-Mar. 25.....		39	
China:				
Amoy.....	Nov. 16-Dec. 31.....		7	Nov. 23-29, 1921: Present. Jan. 22-23, 1922: Present.
Do.....	Jan. 1-Mar. 18.....		13	
Antung.....	Nov. 28-Dec. 18.....	4	1	
Canton.....	Dec. 1-31.....			Present.
Changsha.....	Jan. 16-22.....	1		
Chungking.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-Mar. 4.....			Do.
Foochow.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-Mar. 18.....			Do.
Hankow.....	Nov. 13-Dec. 31.....			Do.
Do.....	Jan. 1-21.....	2		
Harbin.....	Nov. 14-Dec. 11.....	5		
Do.....	Dec. 26-Mar. 12.....	4		
Hongkong.....	Dec. 3-31.....	5		
Do.....	Jan. 1-Mar. 11.....	50	36	
Mukden.....	Nov. 20-Dec. 31.....			Do.
Do.....	Jan. 15-Mar. 18.....			Do.
Nanking.....	Nov. 20-Dec. 17.....			Do.
Do.....	Jan. 15-Mar. 15.....			Do.
Shanghai.....	Oct. 31-Dec. 31.....	23	194	Cases, foreign; deaths, Chinese and foreign. Population: Native, 790,000; foreign, 24,000. Corrected report.
Do.....	Jan. 2-Mar. 19.....	34	501	Cases, foreign; deaths, native. Jan. 14, 1922: Seriously prevalent.
Tientsin.....	Dec. 11-17.....	2		In Mission Hospital.
Tsingtau.....	Jan. 1-Feb. 19.....	31	11	
Chosen (Korea):				
Fusan.....	Dec. 1-31.....	3	1	
Do.....	Jan. 1-Feb. 28.....	80	19	
Gensan.....	Feb. 1-28.....	1		
Seoul.....	Jan. 1-Feb. 28.....	8	3	
Colombia:				
Cartagena.....	Nov. 22-23.....		1	
Santa Maria.....	Feb. 19-25.....			Present.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Cuba.....				Dec. 4-31, 1921: Cases, 351. Jan. 1-31, 1922: Case, 257.
Antilla.....	Dec. 12-31.....	3		At Preston.
Do.....	Jan. 2-Feb. 4.....	13	1	
Cienfuegos.....	Jan. 22-Apr. 1.....	10	1	Two cases from outside city limits.
Santiago.....	Jan. 1-Feb. 28.....	8	1	
Dominican Republic.....				Oct. 1-31, 1921: Cases, 653; deaths, 54. Jan. 2-Feb. 4, 1922: Cases, 6,922; deaths, 185.
Puerto Plata.....	Jan. 13.....	100	5	In district, widely diffused, with 1,000 estimated cases with 100 deaths.
San Pedro de Macoris.....	Nov. 20-Dec. 31.....	31	1	Estimate of about 500 cases of smallpox in the district of Macoris; of these, 50 within the city limits.
Do.....	Jan. 14-Feb. 4.....	122		In surrounding country. Feb. 12-25: 66 cases. Feb. 26-Apr. 1: About 60 cases.
Santo Domingo.....	Nov. 15-Dec. 5.....			In district, 401 cases estimated. Dec. 17-24, 1921: Present in vicinity. Jan. 9-16, 1922: In surrounding country, 1,745 cases (estimated). Mar. 19-Apr. 1, 1922: About 20 cases, with 1 death, in surrounding country.
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 3.....	7		And vicinity.
Do.....	Jan. 1-Feb. 28.....	3		
Egypt:				
Alexandria.....	Nov. 26-Dec. 2.....	1	1	
Cairo.....	do.....	2		
Port Said.....	Dec. 20-26.....	1		Dec. 16-23, 1921: 1 case.
Do.....	Jan. 22-23.....	1		
Finland.....				Nov. 16-30, 1921: 1 case.
Do.....				Feb. 1-15, 1922: Cases, 19.
Fiume.....				Dec. 27, 1921-Jan. 2, 1922: Cases, 2.
Great Britain:				
Manchester.....	Jan. 1-7.....	4		
Nottingham.....	Dec. 4-31.....	18		
Do.....	Jan. 8-28.....	3		
Swansea.....	Jan. 17-23.....	2		Imported on vessel from Persian Gulf.
Haiti.....				Jan. 22-Mar. 25, 1922: A few cases
Cape Haitien.....	Dec. 11-24.....	8		
Do.....	Jan. 1-Feb. 18.....	21	1	
Port au Prince.....	Dec. 11-31.....			Present.
Do.....	Jan. 15-21.....	2		
India.....				Oct. 2-8, 1921: Deaths, 28. Oct. 23-Nov. 19, 1921: Deaths, 266.
Bombay.....	Oct. 23-Dec. 31.....	3	2	Nov. 27-Dec. 31, 1921: Deaths, 533. Jan. 1-28, 1922: Deaths, 700.
Do.....	Jan. 1-Feb. 25.....	12	2	
Calcutta.....	Nov. 13-Dec. 31.....	37	28	
Do.....	Jan. 1-Mar. 11.....	199	146	
Karnah.....	Nov. 11-Dec. 31.....	28	9	
Do.....	Jan. 1-Mar. 18.....	102	66	
Madras.....	Nov. 13-Dec. 31.....	183	59	
Do.....	Jan. 1-Mar. 18.....	812	278	
Rangoon.....	Oct. 1-Dec. 31.....	6		
Do.....	Jan. 15-Feb. 25.....	85	1	
Indo-China:				
Saigon.....	Dec. 18-24.....	1	1	City and district.
Do.....	Jan. 8-Feb. 18.....	8	3	Do.
Italy:				
Catania.....	Feb. 20-26.....	1		In Province.
Genoa.....	Nov. 10-20.....	1		
Messina.....				
Messina.....	Nov. 22-Dec. 4.....	1		
Pettineo.....	Nov. 14-Dec. 4.....	2		
Venice.....	Jan. 30-Feb. 5.....	2		
Japan:				
Kobe.....	Jan. 23-29.....	3	1	
Nagasaki.....	Mar. 13-19.....	1		
Taiwan Island.....	Dec. 1-31.....	2	1	
Do.....	Feb. 14-Mar. 10.....	2	1	
Yokohama.....	Jan. 9-29.....	3		Corrected report.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java:				
East Java—				
Soerabaya.....	Jan. 1-7.....	4	.....
West Java—				
Bandoeng.....	Nov. 18-Dec. 8....	2	.....
Batavia.....	Nov. 18-Dec. 22....	11	9	City and Province.
Do.....	Dec. 30-Mar. 2.....	5	3	In Province: Cases, 23; deaths, 4;
Buitenzorg.....	Nov. 25-Dec. 8....	7	1	13 cases, with 3 deaths, not
Krawang.....	Nov. 18-24.....	1	.....	locally stated. Feb. 3-Mar. 2,
Lebak.....	Nov. 18-Dec. 8....	7	4	1922: Cases, 15; deaths, 2.
Pandeglang.....	Nov. 25-Dec. 1....	1	1	
Tangerang.....	Nov. 18-Dec. 8....	5	1	
Liberia:				
Grand Bassa County.....	Nov. 30.....			Present at Lower Buchanan.
Mesopotamia:				
Bagdad.....	Oct. 1-Nov. 30....	117	50	Epidemic with high mortality
				November, 1921.
Mexico:				
Chihuahua.....	Dec. 5-11.....		1	
Do.....	Jan. 21-Feb. 19....		2	
Guadalajara.....	Nov. 1-Dec. 31....	6	.....
Do.....	Jan. 1-Feb. 28....	31	5	
Mexico City.....	Nov. 20-Dec. 31....	64	.....	Including municipalities in Fed-
				eral District.
Do.....	Jan. 1-Mar. 18....	186	.....	Do.
Monterey.....	Apr. 12.....		2	Epidemic.
Saltillo.....	Jan. 29-Feb. 4....		1	From San Salvador, Zacatecas.
San Luis Potosi.....	Dec. 18-24.....		2	
Do.....	Jan. 8-Apr. 1.....		18	
Torreón.....	Dec. 1-31.....		134	
Do.....	Jan. 1-Feb. 28....		82	
Newfoundland:				
St. Johns.....	Feb. 4-10.....	1	.....
Nicaragua:				
Managua.....	Mar. 5.....			Present.
Palestine:				
Jerusalem.....	Jan. 10-Feb. 20....	27	.....
Panama:				
Bocas del Toro Province—				
Sursuba.....	Jan. 18-Feb. 8....	11	.....	Village 24 miles from Almirante.
Chiriqui Province.....	Dec. 22.....			Present.
Do.....	Jan. 26.....			Present with center of prevalence
				at Boquete Bajo. At Boquete
				Bajo, Jan. 22-Mar. 23, 1922, 59
				admissions to lazaretto: On
				Mar. 20, 1922, 10 cases of small-
				pox, confluent type.
Panama.....	Dec. 14.....	1	.....	On Dec. 21, 1921: 1 additional
				case from country district of
				Sabanas admitted to hospital.
				Total admissions, Jan. 1-Dec.
				21, 1921, 207.
Peru:				
Lima.....	Nov. 1-Dec. 31....		3	
Poland.....				Aug. 14-Dec. 31, 1921: Cases, 578;
				deaths, 146. Exclusive of
				Brest-Litovsk, Minsk, and
				Wilno districts.
Portugal:				
Lisbon.....	Nov. 13-Dec. 31....	49	12	
Do.....	Jan. 1-28.....	46	1	
Portuguese East Africa:				
Lourenço Marques.....	Oct. 1-Nov. 5....	2	4	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Dec. 31....		7	
Do.....	Jan. 1-14.....		3	
Rumania:				
Bucharest.....	Nov. 1-30.....		33	
Chisinau.....	Dec. 1-31.....	33	.....	District.
Russia:				
Estonia.....	Oct. 1-Dec. 31....	38	.....
Lettonia.....	.....do.....	75	.....	Name of country officially
Do.....	Jan. 1-Feb. 28....	38	.....	changed from Latvia to Let-
				tonia.
Senegal:				
Dakar.....	.....do.....	5	3	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Serbia:				
Belgrade.....	Oct. 2-Nov. 26....	16	4	
Siam:				
Bangkok.....	Oct. 23-Nov. 5....	1		
Siberia:				
Vladivostok.....	Feb. 22-23.....	1	1	
Spain:				
Barcelona.....	Jan. 8-14.....		1	
Huelva.....	Oct. 1-Dec. 31....		3	
Do.....	Jan. 1-31.....	1	1	
Malaga.....	Nov. 1-Dec. 31....		60	
Do.....	Jan. 1-31.....		8	
Seville.....	Nov. 16-Dec. 31....		7	
Do.....	Jan. 8-Mar. 25....		55	
Valencia.....	Jan. 22-Mar. 25....	5	1	
Straits Settlements:				
Singapore.....	Nov. 6-Dec. 24....	49	13	
Do.....	Jan. 1-Mar. 4.....	135	30	
Switzerland:				
Glarus, Canton.....	Dec. 10.....			Epidemic.
Lucerne.....	Feb. 1-28.....	12		
St. Gall.....	Feb. 12-13.....	1		
Zurich.....	Dec. 10.....	2		In vicinity.
Do.....	Mar. 12-18.....	5		
Syria:				
Adana.....	Dec. 18-24.....			Present.
Do.....	Jan. 1-14.....			Do.
Aleppo.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Mar. 4.....			Do.
Alexandretta.....	do.....		2	Do.
Beirut.....	Oct. 9-Nov. 13....	5		
Do.....	Jan. 8-Feb. 25....	20	9	Dec. 29, 1921-Jan. 4, 1922: Cases, 14; deaths, 2.
Cilicia.....	Jan. 8-Feb. 4.....			Present.
Diarbekir.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Mersina.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-7.....			Do.
Urfa.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Tunis:				
Tunis.....	Nov. 26-Dec. 23....	17	15	
Do.....	Jan. 1-Feb. 4.....	4	5	
Turkey:				
Constantinople.....	Nov. 27-Dec. 24....	20	4	
Do.....	Jan. 15-Mar. 25....	101	21	
Union of South Africa.....				Nov. 1-Dec. 31, 1921: Cases, 326; deaths, 6 (colored). White, 10 cases.
Cape Province.....	Nov. 5-Dec. 31....			Outbreaks, Nov. 1-Dec. 31, 1921: Cases, 42; deaths, 1 (colored).
Do.....	Jan. 8-Feb. 11....			Outbreaks.
Natal.....	do.....			Outbreaks, Nov. 1-Dec. 31, 1921: Cases, 209; deaths, 5 (colored).
Orange Free State.....	Oct. 23-Dec. 24....			Outbreaks, Nov. 1-Dec. 31, 1921: Cases, 8 (colored).
Do.....	Feb. 5-11.....			Outbreaks.
Southern Rhodesia.....	Dec. 10-Feb. 22....	149		Natives.
Transvaal.....	Oct. 23-Dec. 31....			Outbreaks.
Do.....	Jan. 1-Feb. 11....			Outbreaks, Dec., 1921: Cases, 15. Nov. 1-Dec. 31, 1921: Cases, 22 (colored). Among white population, 8 cases, State not designated.
Johannesburg District.....	Dec. 1-31.....	1		
Do.....	Jan. 1-7.....			Outbreaks.
Venezuela:				
Ciudad Bolivar.....	Mar. 22.....	3		
Yugoslavia.....				July 3-30, 1921: Cases, 37.
Bosnia Herzegovina.....	July 3-9.....	2		
Croatia Slavonia.....	do.....	1		
Dalmatia.....	do.....	1		
Serbia.....	do.....	3		
Belgrade.....	Dec. 11-17.....	4		
Do.....	Jan. 1-Feb. 19....	6		
Slovenia.....	July 3-9.....	1		
Vo vodina.....	do.....	3		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
On vessel:				
S. S. Victoria.....	Jan. 16.....	1	1	At Thursday Island Quarantine, Australia. Vessel left Hong-kong Jan. 3; case isolated Jan. 10. Vessel left for Townsville, Sydney, and Melbourne. Re leased at Melbourne Feb. 4, 1922.
S. S. West O'Rowa.....	Jan. 5-8.....	3	1	At Kobe, Japan, from Shanghai, China.
S. S. —.....	Jan. 17-23.....	2		At Swansea, Wales, from Persian Gulf.

TYPHUS FEVER.

Algeria:				
Algiers.....	Nov. 1-Dec. 31....	3		
Do.....	Jan. 11-Mar. 31....	9		
Oran.....	Dec. 21-31.....	1		
Do.....	Jan. 1-Mar. 31....	24	11	
Asia Minor:				
Brousa.....	Jan. 15-21.....	1		
Austria:				
Vienna.....	Dec. 4-31.....	10		
Do.....	Jan. 1-28.....	9	1	
Bolivia:				
La Paz.....	Aug. 1-Dec. 31....	121	98	
Do.....	Jan. 1-31.....	15	12	
Brazil:				
Sao Paulo.....	Feb. 6-12.....	12	2	
Bulgaria:				
Sofia.....	Dec. 18-24.....	1		
Do.....	Feb. 12-Mar. 18....	2		
Chile:				
Concepcion.....	Nov. 22-Dec. 26....		3	
Do.....	Jan. 3-30.....		3	
Talcahuano.....	Jan. 29-Feb. 18....	3		
Valparaiso.....	Oct. 23-Nov. 26....		6	
Do.....	Jan. 1-7.....		1	
China:				
Antung.....	Dec. 26-Jan. 1.....	1		
Do.....	Feb. 6-12.....	1		
Harbin.....	Nov. 7-Dec. 25....	12		
Do.....	Dec. 26-Mar. 19....	37		Jan. 23, 1922: Reported extending from Soviet Russia along railway line to maritime provinces.
Czechoslovakia:				
Prague.....	Jan. 22-Feb. 18....	3		
Danzig (free city).....	Feb. 23.....	1		In district, at Zoppot. In merchant from Warsaw.
Egypt:				
Alexandria.....	Nov. 19-Dec. 31....	3	1	
Do.....	Jan. 15-Apr. 1.....	20	5	
Cairo.....	Oct. 1-Dec. 31....	18	14	
Do.....	Jan. 1-Feb. 11....	10	5	
Port Said.....	Jan. 22-Feb. 11....	2		
Finland:				
Heisingfors.....	Jan. 1-31.....	1		In courier from Moscow.
Germany:				
Breslau.....	Dec. 25-31.....	2	1	
Do.....	Jan. 1-Feb. 5.....	55	8	Including district.
Frankfort-on-Oder.....	Feb. 16.....	26		In persons returning from Russia.
Hamburg.....	Dec. 11-17.....	4		
Great Britain:				
Birkenhead.....	Apr. 6.....	13	3	Vicinity of Liverpool.
Glasgow.....	Dec. 25-31.....	1		
London.....	Apr. 29.....	1		Stated to have probably been contracted in Warsaw.
Greece:				
Saloniki.....	Jan. 23-29.....	1		
Italy:				
Palermo.....	Jan. 15-28.....	3	1	
Mesopotamia:				
Bagdad.....	Oct. 1-Dec. 31....	3	9	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Mexico City.....	Nov. 20-Dec. 31...	342	.....	Including municipalities in Federal District.
Do.....	Jan. 1-Mar. 18.....	254	.....	Do.
San Luis Potosi.....	Dec. 18-24.....		1	Dec. 25-31, 1921: Present.
Do.....	Jan. 8-Feb. 25.....			Present. One death.
Palestine:				
Jerusalem.....	Dec. 27-Mar. 27...	12	.....
Poland.....				
District—				
Bialystok.....	Nov. 20-Dec. 10...	116	3	Aug. 14-Nov. 5, 1921: Cases, 2,399; deaths, 173. Nov. 6-Dec. 5, 1921: Cases, 1,512; death 105. Nov. 20-Dec. 10, 1921: Cases, 1,162; deaths, 89. Dec. 4-31, 1921: Cases, 3,600; deaths, 313. Jan. 1-7, 1922: Cases, 1,322. All statistics are exclusive of Brest-Litovsk, Minsk, and Wilno districts.
Do.....	Jan. 1-7.....	253	.....	Jan. 1-7, 1922: Cases, 61.
Galicia—				
Lemberg.....	Jan. 3.....	239	.....
Kielce.....	Nov. 20-Dec. 10...	31	8	
Do.....	Jan. 1-7.....	28	.....
Krakow.....	Nov. 20-Dec. 10...	45	6	
Do.....	Jan. 1-7.....	53	.....
Lodz.....	Nov. 23-Dec. 10...	67	.....
Do.....	Jan. 1-7.....	41	.....
Lublin.....	Nov. 20-Dec. 10...	59	.....
Do.....	Jan. 1-7.....	147	.....
Lwow.....	Nov. 20-Dec. 10...	121	16	
Nowogrod.....	do.....	249	15	
Polesia.....	do.....	83	5	
Do.....	Jan. 1-7.....	450	.....
Posen.....	do.....	1	.....
Stanislavow.....	Nov. 20-Dec. 10...	88	8	
Do.....	Jan. 1-7.....	54	.....
Tarnopol.....	Nov. 20-Dec. 10...	86	17	
Do.....	Jan. 1-7.....	28	.....
Volhynia.....	Nov. 20-Dec. 10...	89	4	
Do.....	Jan. 1-7.....	107	.....
Warsaw.....	Nov. 20-Dec. 10...	81	2	
Do.....	Jan. 1-7.....	32	.....
Warsaw City.....	Nov. 20-Dec. 10...	47	5	
Do.....	Jan. 1-7.....	67	.....
Portugal:				
Oporto.....	Jan. 8-Apr. 1.....	24	2	
Rumania:				
Bucharest.....	Nov. 1-30.....	3	.....
Cahul.....	Jan. 1-31.....	6	.....
Chisinau.....	Nov. 1-Dec. 31.....	28	.....	District. Dec. 1-31, 1921: Recurrent typhus: cases, 19.
Russia.....				Nov. 28-Dec. 10, 1921: In Soviet Russia, cases, 7,681.
Esthonia.....	Oct. 1-Dec. 31.....	53	.....	Recurrent typhus, 29 cases.
Do.....	Jan. 1-31.....	36	.....	(Corrected report) Oct. 1-Nov. 30, 1921: Cases, 127.
Lettonia.....	Oct. 1-Dec. 31.....	341	.....
Do.....	Jan. 1-Feb. 23.....	456	.....
Libau.....	Jan. 15-Feb. 1.....	4	.....
Lithuania.....	Jan. 1-31.....	814	73	Recurrent typhus: Cases, 357; deaths, 12. Typhus: Feb. 19, 1922, 400 cases, vicinity of Kovno, with mortality of 7 per cent.
Perm.....	Nov. 23-Dec. 10...	1,408	.....	Oct. 1-31, 1921: Cases, 839. Nov. 1-30, 1921: Cases, 2,389.
Saratov District—				
Markstadt.....				Sept. 1-Dec. 31, 1921: Cases, 1,987; mortality, about 10 per cent; hospital cases.
Serbia:				
Belgrade.....	Oct. 2-Nov. 26...	3	2	
Siberia.....				
Chita.....	Dec. 26.....			Jan. 23, 1922: Present in western districts.
Vladivostok.....	Dec. 25-31.....	5	1	Epidemic.
Spain:				
Madrid.....	Dec. 1-31.....	1	.....
Do.....	Jan. 1-31.....	2	.....

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Syria:				
Aleppo.....	Mar. 19-25.....			Present.
Diarbekir.....	Mar. 5-Apr. 1.....			Do.
Mardin.....	do.....			Do.
Tunis:				
Tunis.....	Feb. 5-Mar. 25.....	4	3	
Turkey:				
Constantinople.....	Nov. 20-Dec. 31.....	19		
Do.....	Jan. 1-Mar. 25.....	98		
Union of South Africa.....				Nov. 1-Dec. 31, 1921: Cases, 1,368; deaths, 205 (colored). White, 20 cases; deaths, 4.
Cape Province.....				Oct. 23-Dec. 24, 1921: Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 1,053; deaths, 158 (colored). Among white population, 19 cases, 3 deaths.
Do.....				Jan. 1-Feb. 11, 1922: Outbreaks. One death in European at Jenessville, Dec. 6, 1921.
East London.....	Oct. 30-Dec. 24.....	3		Natives.
Do.....	Jan. 29-Feb. 11.....	2		Outbreaks. Stated to be prevalent only in Newcastle District.
Natal.....	Nov. 5-Dec. 17.....			Nov. 1-Dec. 31, 1921: Cases, 135; deaths, 25 (colored).
Orange Free State.....	Nov. 13-Dec. 31.....			Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 158; deaths, 21, (colored).
Do.....	Jan. 1-Feb. 11.....			Outbreaks.
Durban.....	Jan. 15-21.....	1		Imported.
Transvaal.....	Jan. 8-Feb. 11.....			Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 35; deaths, 4 (colored). White, 1 case, 1 death.
Johannesburg District.....	Jan. 12-18.....	26	4	
Venezuela:				
Maracaibo.....	Dec. 20-26.....		1	
Yugoslavia.....				July 3-30, 1921: Cases, 13.
Bosnia Herzegovina.....	July 3-9.....	1		
Croatia Slavonia—				
Zagreb.....	Jan. 1-Feb. 25.....	3		
Montenegro.....	July 3-9.....	3		

YELLOW FEVER.

Brazil:				
Pernambuco.....	Feb. 19-Mar. 4.....	2	1	
Mexico.....				Year 1921: Cases, 115; deaths, 53.
Colima (State).....				Year 1921: Cases, 7; deaths, 4.
Colima.....	Oct. 27.....	4	3	
Manzanillo.....	Aug. 21.....	3	1	
Jalisco (State).....				Year 1921: Cases, 13; deaths, 7.
Guadalajara.....	Nov. 1-30.....	1	1	Imported.
Puerta Vallarta (Las Penas).....	Oct. 5-Dec. 17.....	13	5	
Do.....	Jan. 31.....		1	
Tonila.....	Aug. 31.....	1	1	
Quintana Roo (Territory)—				
Payo Obispo.....	Aug. 8.....	1	1	
Sinaloa (State).....				Year 1921: Cases: 18; deaths, 9.
Culiacan.....	Sept. 17.....	4	1	
Guamuchil.....	Oct. 10.....	1	1	
Mazatlan.....	Aug. 21.....	1	1	Imported.
Palmar de los Leales.....	Sept. 30.....	12	7	
Tamaulipas (State).....				Year 1921: Cases, 1; deaths, 1.
Tampico.....	Jan. 11.....	1	1	
Vera Cruz (State).....				Year 1921: Cases, 75; deaths, 31.
Alamo.....	June 21.....	4	1	Oil camp.
Alvarado.....	July 3.....	1	1	
Barra de Penn.....	July 13.....	1	1	
Cordoba.....	Sept. 22.....	5	3	
Cosamaloapam.....	July 18.....	14	6	
Nogales.....	Oct. 28.....	1	1	
Orizaba.....	do.....	1		
Papantla.....	Jan. 14.....	6	3	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to May 5, 1922—Continued.

YELLOW FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico—Continued.				
Vera Cruz—Continued.				
Providencia.....	Oct. 28.....	3	.....
Purga.....	Feb. 7.....	1	1	
Rancho de Santa Rosa..	Oct. 8.....	2	.....
Rancho "El Jaguey"...	Sept. 14.....	2	2	
San Pablo (Papantla)...	Sept. 12.....	1	.....
San Ildefonso.....	Oct. 17.....	2	.....
Tierra Blanca.....	Sept. 24-Nov. 12..	4	3	
Tlacotalpan.....	Sept. 14.....	1	1	
Tuxpam.....	Jan. 3.....	8	2	
Vera Cruz.....	Jan. 15.....	18	7	
				Two of these cases imported. Dec. 20-26, 1921: Cases, 1; deaths, 1. Imported. March, 1922: One case on plantation 105 miles from port of Vera Cruz.